

On Site Archaeology
BP TSEP Site 169 Lilling Low Lane, West Lilling, National Grid

Reference SE 640 644 (OSA99EX03)

NYCC HER	
SNY	8807
ENY	14/571/359 etc
CNY	1564
Parish	3078
Rec'd	19/06/2003

Introduction

The site lies to the north of Lilling Low Lane c 0.9km southwest of the village of West Lilling in the County of North Yorkshire (NGR SE 640 644, see Figure 1). It is located on a discrete area of sand and gravel surrounded by warp and lacustrine clay, overlying Bunter and Keuper Sandstone. Approximately 22m above Ordnance Datum, at the foot of the Howardian Hills which rise to the north, and some 200 metres from the River Foss to the south and west, its most recent use has been arable farming.

Investigation began with two geophysical surveys and was followed by intrusive evaluation using five trenches, each 30m in length and 1.80m wide, (Trenches 1 to 5). The final excavation was undertaken with a single trench, 1.80m in width, approximately 400m in length, (Trench 6). The relative positions of the geophysical survey area, the evaluation trenches and the excavation trench are shown on Figure 2 (Geophysical Surveys of Bradford, 1998af, On Site Archaeology, 1999f, On Site Archaeology, 2000d). During the work the remainder of the pipeline working width was protected, thus limiting the removal of archaeological deposits and providing no opportunity for wider investigation.

Results

The results of the investigation and evaluation are presented geographically, following the main excavation area, (Trench 6), from the northwest to the southeast, (see Figure 3). Many of the features have no stratigraphic relationship other than their all being sealed by ploughsoil and subsoil and cut into natural. In a few cases more complex sequences of structures, cut features and deposits survived. Two such areas were located at between 240m-260m (Figures 4 and 5) and 310m-350m from the northwestern end of the trench, and within evaluation Trenches 2 to 5.

The most northwestern excavated features proved to be modern field drains and medieval to post-medieval plough furrows. Such features were found in all the excavated areas and the furrows were

recognised during the geophysical survey. These features are excluded from the site plans, except where they truncate earlier deposits or features in a way that affects interpretation of the earlier remains.

Between 61m and 70m from the northwest end of Trench 6 (see Fig 3) was a series of shallow hollows in the natural, between 0.05m and 0.15m deep. A number of the fills, (6004), (6005) and (6012), contained early Anglo-Saxon pottery. Except for the drains and furrows these features were the most northerly of the excavation and were about 170m away from the late Roman occupation area.

A second group of small oval features was found between 81m and 97m along Trench 6 (Fig 3). These were between 0.50m and 1.40m in diameter. Some may have been natural, and others perhaps small pits [6063, 6072, 6077, 6079, 6081, 6083, 6085] containing a sandy fill with rare pebbles and charcoal flecks. Two fills, (6064) and (6068), produced sherds of late Roman pottery.

Between 105m and 130m from the northwest end of the trench was a natural channel, (6100), up to 0.40m deep (Fig 3). It contained no datable material and it is therefore uncertain whether it would have been a topographical feature during the late Roman occupation, although the location and orientation of the late Roman features suggest that the channel exerted at least some influence on the local topography.

Southeast of the channel were two parallel gulleys [6033 and 6031] containing no datable artefacts (Fig 3). More ditches and gulleys were found 55m along the trench, from 190m to 235m. They were much the same size, some with steeper sides than others. Two contained 4th century pottery and fragments of Roman brick [6051, 6053, 6059, 6061].

Running between approximately 225m and 230m from the northwest end of Trench 6 was a U-shaped gully, [6087], on a west-northwest to east-southeast orientation (Fig 3). The western end had been truncated by a later plough furrow, but the gully was still visible for a total length of 3.60m. Unfortunately this feature contained no clear dating evidence. The geophysical survey encountered anomalies which may correlate with features [6051], [6061] and [6087]. The second of these three is

most convincing, as it lies parallel to the strong anomaly, which marks the west side of the main late Roman enclosure (see Figure 2 and below)

The final two features in this group were a parallel gully, [6065], and ditch, [6074], on an approximately north-northeast to south-southwest alignment, between 233m and 235m along Trench 6 (Fig 3). The gully was 0.40m wide, 0.18m deep, with steep sides and a single fill, (6064), which included a sherd of pottery dated to c AD 350 to AD 410. The ditch was wider, (2.30m), deeper, (1.40m), and contained a more complex sequence of fills. The primary fill, (6099), a stoneless sand, was almost certainly derived from erosion of the edges. This was sealed by a similar fill, (6095), containing flecks of charcoal and pottery dated to between c AD 300 and AD 400. The third fill, (6092), included a considerably higher charcoal content and pottery of the same date. Between these three deposits more than half the original depth of the ditch had been filled. The fourth fill, (6075), which completely filled the ditch on its southwest side, produced frequent sherds of pottery. This was the richest single context excavated, with over 60 sherds, dated to between c AD 350 and AD 410. It also contained fragments of Roman roof tile, burnt bone and a fragment of Roman window glass. The final fill of the ditch, (6098), on the northeast side, was a clean sand, with no finds. (Additional sherds of 4th century pottery were recovered from [6074] but it is uncertain which of the fills these came from.) A continuation of this ditch was also excavated to the northeast, in evaluation Trench 5, as [5008]. The fill sequence was similar, with redeposited natural, together with charcoal rich layers, such as (5005), a sample of which revealed charred cereal grains (bread/corn wheat, barley and oats) and charred heather. This material may be from the burning of turves, the ash from which was then used as a fertiliser (see Hall et al, in this report). This ditch was apparently visible on the geophysical survey as a strong linear anomaly, running for at least 55m. At its northeast end this joined a similar, strong, perpendicular anomaly, which is presumed to represent another ditch. Together these anomalies (one of which has been shown to represent a ditch of late Roman date) form two sides of an apparently rectangular enclosure.

From approximately 240m along the trench a more complex sequence of archaeology was recorded (details are shown on Figures 4 and 5). Within the westernmost end of this area the earliest recognisable feature was [6089], which has been tentatively interpreted as a kiln or oven during the

excavation (henceforth this feature is referred to as the oven) In plan the cut was a rough hourglass shape and was filled with (6237), (6205) and (6091) A band of burnt clay was set across the neck of the hourglass, separating the two 'bulbs' The primary fill, (6237), was almost entirely charcoal together with modest amounts of charred cereal remains, with fragments of burnt clay and abraded imbrex tile, these fragments being more common in the northern bulb of the cut This was overlain by fill (6205), a dark brownish black sandy silt with charcoal, burnt clay and small flecks/fragments of daub This was overlain by fill/layer (6091) of clay with charcoal flecks This had a 'knobbly' appearance as if it had been laid in clods, and extended beyond the limits of cut [6089] with a marked depression over the cut The depression in (6091) was filled with (6090), a dark brownish black sandy silt, containing Roman brick and tile, from which a Roman clay lamp, likely to date to the 3rd century, was recovered Sherds of pottery, dated to between c AD 280 and AD 400 were also recovered from the fills

To the north of this feature were two further cut features, [6199] and [6197] Cut [6199] was mainly beyond the limits of the trench, but was probably a small pit Cut [6197] was also a small pit into which a single pottery vessel appeared to have been placed (the upper part of this vessel had been damaged through ploughing, and has been spot dated between AD 280 and AD 400)

Immediately to the east of the oven, [6089] was ditch [6312] running north – south, the clay fill of the oven (6091) extended to the western edge of this ditch, but it was not clear during the excavation whether this ditch had cut the clay, or the clay had been laid up to the edge of an extant ditch Ditch [6312] was filled by (6311), (6310), and (6307) The presence of charcoal in secondary fill (6310) suggests that the ditch was open during the use of the oven However this fill and the primary fill (6311), contained pottery dating to between AD 350 and AD 410, suggesting that this ditch post-dates feature [6089] and that the charcoal in the secondary fill is unrelated to the oven Ditch [6312] continued northeast and southwest of excavation area Trench 6, having been investigated during the evaluation in Trench 4 as [4004], and Trench 5, as [5028] The geophysical survey indicates the presence of an interrupted linear anomaly along this alignment which suggests that this ditch continues for approximately 25m to the northeast of Trench 5, before turning through 90° to the southeast, in much the same way as ditch [6074] discussed above

To the east of ditch [6312] were irregular and curvilinear cut features and deposits. Most of them extended beyond the trench making interpretation of their form and function uncertain. The earliest features were heavily truncated and irregular, but may have originally been pits, [6280] and [6283], pottery dated to between AD 200 and AD 400 was retrieved from the fill of the latter, (6274). These earliest features were initially overlain by layers containing fragments of sandstone, (6218) and (6250), the former of which contained pottery dated to between AD 300 and AD 400. Cut into the surface of these layers were three intercutting features, [6243], [6277] and [6278]. As they overlap they are unlikely to be contemporaneous. None of the fills, (6276), (6275) and (6279), contained datable material. Within Trench 5 other, undated, gullies or pits were also excavated [5010], [5012] and [5019].

These intercutting features had been sealed by sand and sandy silt layers, three of which, (6225), (6242) and (6253), contained pottery dating from AD 180 to AD 400, but likely to be towards the end of this range. These layers were cut into by a pit, or terminus of a ditch, [6282], which continued southwest beyond the excavation. The single fill, (6226), contained pottery dated to between AD 300 and AD 400. To the east, but with no stratigraphic relationship to it was a north-northeast to south southwest-aligned ditch, [6299], the single fill of which (6252), contained pottery dated to between AD 200 and AD 320.

The cut features and deposits in this area were sealed by a cobble surface, (6142) and (6300) (see Fig 5), disturbed by medieval plough furrows and more recent land drains. Pottery from this surface was dated to between AD 350 and AD 400. The survival of this cobble surface may be partially due to sinkage into underlying feature fills, and this has almost certainly been so to the northeast, in evaluation Trench 5, where a plough-damaged continuation of the surface, (5015), including 4th century pottery, was found covering the top fill of ditch [5028], but not elsewhere in the trench.

To the southwest a further area of cobbling, (4027), was excavated in Trench 4 (see Fig 5). Small wall foundations were built into, or closely associated with this surface. Along its southeast side a trench-built wall foundation, [4024], had been constructed on a north northeast – south southwest alignment.

It was of dry-stone construction and comprised two stone courses angled at c 45° forming a herringbone pattern when viewed in elevation. It contained mid grey brown silty clay packing between the stones and a large fragment of *opus signinum* within the construction cut. To the northwest of the cobble surface was a second, trench-built, wall foundation, [4006], which ran approximately parallel to the first although with the very short lengths exposed the exact alignments were difficult to follow with complete certainty. This was also of dry-stone construction comprising sandstone and cobbles with occasional tile fragments, together with mid brown silty clay packing between the stones. The trench for this second wall foundation was cut through a deposit (4001) that contained fragments of wall plaster. Some of the fragments included a red wash and one included the straight junction between an area of red wash and an area of plain plaster. The plaster is of variable thickness and in one case was plastered onto wood, but in other cases the backing is unclear. The finish of the plaster is irregular with tool marks showing on some pieces. Despite the use of paint it seems that the plastering is of low quality. This was the only deposit on the site that produced such material, but it does indicate that earlier, Roman, buildings than those encountered within the excavated trenches existed within close proximity. In addition this deposit also contained a very small quantity of late Roman blown window glass, which gives a further indication of the nature of the buildings in the vicinity of the excavation.

Between the two parallel foundations was a third, [4025], aligned approximately east – west. This consisted of a single course of sandstone angled c 45° north - south in elevation with occasional cobbles and very occasional fragments of tile bonded with mid grey brown silty clay. The foundation appeared to have been incorporated into cobble surface (4027). The cobble surface (4027) and wall foundation [4006] were sealed by disuse/ demolition material (4005) including building stone and tile fragments. A number of the tile fragments had *opus signinum* adhering to them.

To the southeast of these wall foundations and surface, still within Trench 4, was a sub-rectangular cut [4023] containing part of a further foundation [4014]. Built of roughly-coursed, dry-stone construction it contained fragments of 4th century pottery within its upper course. Some of the outer stones were angled c 45° in elevation. The space enclosed by the foundation appeared to be sub-divided by a northeast southwest aligned row of stones. The fill (4008) of the cut contained occasional fragments of

tile and building stone, animal bone and 4th century pottery. This foundation is recognisable on the Geophysical survey as a large oval anomaly, although few of the other structures excavated in this area are so clearly visible (see Fig 2). Between the foundation, and the surface and walls to the northwest, was an east-west aligned ditch [4013], although its stratigraphic relationship with these structures was unclear. It contained a small quantity of late 3rd to 4th century pottery. This ditch was also recorded within Trench 3, to the east, [3013], the upper fill of which (3011) produced 4th century pottery and a set of copper alloy shears, 123mm in length (see Fig 6). In contrast to medieval shears from the London waterfront, the bow is not differentiated from the arms but in other respects there is little difference between these shears and the London examples, although there is no close parallel to the detail of the recesses either (Cowgill et al 1987, 106-113). The eastward continuation of this ditch was not encountered within Trench 6, due to its apparent truncation by a plough furrow of medieval or later date. To the south of the ditch, again within Trench 4, were three post-holes, [4015], [4016] and [4017], between 0.35m and 0.55m in diameter. Although none of these could be independently dated they formed a line parallel to the south side of ditch [4013/3013] and may be related to it.

Returning to the Trench 6 sequence, to the east of cobble spread (6142), but with no stratigraphic relationships to it, was a linear gully, [6302], aligned north-south and filled with (6301), a mid greyish brown clayey silty sand, containing pottery dated to between AD 200 and AD 400. This was cut by a curvilinear gully [6298], filled with (6297), a dark brown sandy clayey silt, which included what must have been a residual sherd of samian ware pottery from between AD 150 and AD 200. Adjacent to the curvilinear gully [6298] was a possible posthole, [6135], filled with a dark brown sandy silt. (6134). These three features were truncated by a wide shallow cut feature, [6133], filled with mid greyish brown sandy silt (6132), with pottery dated to the 4th century. The full extent of this feature remains unknown, as its western edge was completely truncated by a medieval plough furrow, which had also truncated cobble spread (6142), and any relationship between the two.

To the southeast of feature [6133] the archaeology consisted of features cut into natural, with no direct relationships between them (see Fig 3). These covered the stretch of Trench 6 from 270m to 300m from the northwest end. Towards the northwest end of this area were three narrow gullies between 0.40m and 0.97m wide [6109], [6111] and [6139], each containing a single, soft sandy fill (6108),

(6110) and (6138) respectively. Occasional pottery was present, (in 6108 and 6138) suggesting a 3rd century AD + date for two of the three gullies, whilst the third was undated. During the evaluation a single ditch [3008] had been found immediately to the southwest of gullies [6109] and [6111], suggesting that they had joined.

A broader (1.70m wide) ditch [6113] was 0.25m to the southeast of gully [6139] and running parallel to it. Five stake-holes ran along the base of the cut with a single larger post-hole, continuing beyond the northeast edge of excavation. This was the only example of internal structural detail with any of the ditches excavated on the site. The single fill (6112) included occasional sherds of late 2nd to 3rd century pottery, which also suggests a strong relationship with the three parallel gullies. Two post-holes [6127 and 6129] were found close to the southeast side of the ditch, and appear to form a continuation of those found in Trench 4 (see above). To the southeast of these post-holes was a shallow sub-oval feature [6107], which continued to the southwest beyond the edge of excavation. No datable finds were retrieved from the single, sandy silt, fill (6106), although degraded flecks of ceramic material, presumably daub, brick or tile, were noted. This may have been an isolated pit or a terminus of an east-west aligned ditch [3010] recorded during the evaluation. Another pit, or ditch terminus [6187], extended beyond the northeast edge of the trench to the southeast of this, the fill of which (6186) again contained only degraded ceramic material.

To the southeast of [6187] was a substantial, steep-sided, ditch [6169], 2.00m wide and 0.86m deep. The primary fill (6168) was a thin layer of yellow sand at the base of the cut, from weathering of the sides and containing a single sherd of pottery dated to between c. 350 AD and 410 AD. This had been sealed by dark grey/black, charcoal-rich, clay sand, (6167) containing occasional sherds of late 2nd to 3rd century pottery, this was also a thin layer, limited to the lowest levels of the ditch. These two earliest fills were sealed by thicker deposits, apparently representing deliberate backfilling, the first being a firm grey clay (6166) followed by softer grey sand (6165). This contained an assemblage of Roman pottery, ranging in date from the mid/late 2nd to early 5th century. The firm grey clay also included a single unabrased Anglo-Saxon sherd. The softer grey sand contained only a single sherd of 2nd century pottery. The final fill (6164), a mottled sand, contained no datable pottery. This uppermost fill had been cut into by a narrower (0.50m) ditch [6163], on the same alignment, which appears to

form a much less substantial re-cut of the original ditch. The single fill (6162) also contained a single sherd of pottery, dated to the 2nd century or later. This substantial ditch was not recorded during the evaluation although a southwesterly continuation of it would have crossed Trench 3. This may be because it has terminated in the space between the evaluation trench and the main excavation area. However, it is more likely to be due to the presence of cobble spread, (3017), which was not excavated at the evaluation stage, but had presumably survived ploughing by sinking into the upper fills of the ditch. Despite its scale this ditch was not recorded during the Geophysical survey and no other anomalies were detected to the southeast of this.

Although recorded as a single ditch cut, examination of the section suggests that this was formed by at least two, and probably three cuts. Following the original cut the first re-cut appears to have been between fills 6167 and 6166, with a second between 6165 and 6164. The primary fill of the first ditch, formed by erosion of the sides, suggests that it was originally dug as part of the latest Roman occupation of the site, with the late 2nd to 3rd century pottery recovered from the second fill presumably being residual. This would therefore have been placed within the main late Roman enclosure and by its scale would have formed a significant internal division. The first re-cut contains two thicker fills, one of which included a single sherd of unbraded, Anglo-Saxon material within a mixed assemblage of Roman pottery. These fills appear to have been deliberately deposited to fill in the ditch and, judging by the broad range of pottery contained within them, the fills are likely to have been generated by digging into a fairly complex sequence of deposits. Backfilling of this re-cut ditch, and the subsequent recuts, would therefore be dated by the unbraded Anglo-Saxon sherd, rather than the residual Roman material found associated with it. This would also suggest that the cobble surface (3017) might be of early Anglo-Saxon date.

A further area of more complex archaeology was found between 312m and 360m although this was not evident on the Geophysical survey (see Figs 2 and 3). Many of the features encountered here proved difficult to deal with in the confines of the narrow trench, and in two locations the trench was widened in order to try and elucidate the nature of the features, though not altogether successfully. At the westernmost end of this area were a group of inter-cutting ditches, [6206], [6271], [6273] and [6185].

Ditch [6206] was aligned north - south, with only its final fill, (6183), containing any datable artefacts, in the form of pottery dated to between AD 300 and AD 400)

Ditches [6271] and [6273] were aligned east - west, approximately 0.75m apart each contained a single fill, with the latter, (6272) including 4th century pottery. These two ditches were not fully exposed during the excavation as they lay beyond the line of the proposed pipe trench and were only visible when the trench was extended to the south. A possible continuation of one of these ditches was recorded during the evaluation, in Trench 2, as [2017] although the sequence of three fills was clearly more complex in this ditch.

While the stratigraphic relationships between ditches [6206], [6271] and [6273] were not established, as the point at which they intersected was beyond the limits of the trench, all three were cut by a further ditch, [6185]. The final fill of [6185] was (6182), and contained pottery dated to between AD 360 and AD 410. This latest ditch may be a re-cut of ditch [6206] as it partially overlapped it upon the same alignment.

To the east of the ditch group were three further ditches, again aligned roughly north - south, which were associated with a very wide cut feature. Ditch [6314] was approximately 0.60m wide and contained a single fill, context (6313), with pottery dated to between AD 150 and AD 400.

Immediately to the east was a wider, north-south, ditch [6288], 1.60m across, once again with a single fill, (6287), although no finds were recovered. During the evaluation a further section was excavated through this ditch [2026], which was filled with dark brownish grey silty clay (2025). A sample of this fill, taken for environmental analysis, showed it to be rich in organic material, including plant remains, charred cereal grains and various invertebrate remains, but again no dating evidence was present.

Further to the east, ditch [6290] also contained a single fill, context (6289), dated to between AD 300 and AD 400. These three features [6288, 6290 and 6314] were all stratigraphically beneath cut [6259]. This ran slightly obliquely to the line of the excavated trench and measured approximately 25 metres in width, and 0.50 metres in depth. The cut was initially filled by a series of sandy silt deposits, (6291, 6262-6261), containing pottery generally dated to between AD 350 and AD 410, but also included a single early Anglo-Saxon sherd. Towards its southeastern side was a layer of stone slabs and

fragments (6292), which also produced pottery of late Roman date. This probable surface was sealed by further sandy silt deposits, (6315, 6260, 6264), from which pottery dated to between AD 350 and AD 410 was again recovered. These represented the latest deposits within this sequence, and were cut by medieval furrows.

Of these four cuts, ditch [6314] may be an earlier feature, which has been truncated by [6259]. During excavation [6259] was interpreted as a road or drove way with ditches [6288] and [6290] flanking the western and eastern sides respectively. However, the sequence is not straightforward, with the ditches being partially overlain by possible surfaces, suggesting that the road was in use over a prolonged period, with piecemeal repairs being undertaken. Cut [6259] might have been formed through repeated use and wear, i.e. a holloway, which was later partially consolidated by the laying of stone layer (6292). Although layer (6292) seemed to form a fairly consolidated surface in plan, after its removal it appeared less convincingly so in section. Ditch [6288] clearly continued to the north, in Trench 2, as [2026], whilst a patch of cobbling, (2023), may represent a similar continuation of possible surface (6292). A sequence of intercutting ditches [2029], exposed but not fully investigated, in Trench 2, was not obviously found in the main excavation, and had presumably been truncated by the road or drove way, although it may have continued to the west as [6273]. The inclusion of early Anglo-Saxon pottery within the drove way sequence once again implies that occupation and construction of parts of the site continued beyond the late Roman period.

To the east of feature [6259] was a series of intersecting ditches, the relationships between which were difficult to ascertain due to the similarity of their fills, and fact that the majority of intersections were beyond the limits of the trench. After partial excavation the trench was widened in an attempt to try and resolve the stratigraphy of the features, but with limited success, due in part to a very high water table. The group appeared to comprise three inter-cutting linear ditches, and a further ditch with a right angle bend cutting the intersection of two of the linear ditches.

One of the earliest features was ditch [6160]. This was aligned roughly north - south, though very little of the feature was evident in the trench, it having been truncated by two other ditches at its southern end. It was filled by a dark, brownish grey, sand (6161) (spot dated to between AD 300 and AD 400).

Located to the east of [6160] was a second ditch [6195], running obliquely across the trench. This contained two fills, the primary fill, (6204), being a dark brownish grey sand, and the upper fill, (6194), a mid brownish grey sand (spot date between AD 300 and AD 400)

Both ditches [6160] and [6195] were truncated by east - west aligned ditch [6171], containing a dark brownish grey sand primary fill, (6202), and a mid greyish brown sand upper fill, (6170) (spot date between AD 300 and AD 400). This in turn was truncated by ditch [6151], which formed a right angle at the intersection of ditches [6160] and [6171]. Ditch [6151] contained two fills, (6244) being a dark brownish grey sand primary fill, and (6150), a mid greyish brown sand (spot date between AD 280 and AD 400). This ditch completely truncated two sub-rectangular features, [6210] and [6212], both located beneath the bend of ditch [6151]. These were filled by (6209) and (6211) respectively, both of which consisted of dark grey-black humic material in a sandy matrix. Fill (6211) contained a few sherds of pottery, giving a spot date of between AD 300 and AD 400.

Two gullies were also evident in the vicinity of this ditch group, these being [6235] and [6214]. The southwest end of gully [6214] was cut by northwest to southeast ditch [6195], and contained a mid brownish grey silty sand, (6213). Four sherds of pottery were recovered from this fill dating it to AD 200 and AD 300+. Gully [6235] was filled with (6234), a slightly blue, mid grey, sand, which contained no finds.

The remaining features located towards this southeastern end of the trench are apparently all of post-Roman date.

The Roman Pottery from West Lilling

Barbara Precious

The West Lilling Roman pottery is a fine example of an assemblage from a Roman villa of North Yorkshire. It consists of 985 sherds, almost all late Roman in date. It is one of the few sites known where occupation may have extended from the late Roman to the early Anglo-Saxon periods. A few vessels are of very late or sub-Roman type (GRQZ), similar to examples found in Roman York where they are dated to the late 4th or early 5th centuries (Monaghan 1997, 910-913). More have been found at Filey (Monaghan, 2000) and West Heslerton (Darling and Precious, in Powlesland *et al* forthcoming).

Methodology

This report combines and enlarges upon the previous assessments (Vince 1999, and Precious 2000). The assemblage has been recorded in accordance with the guidelines of the *Study Group for Roman Pottery* (Darling 1994) using sherd count, weight in grammes, and estimated vessel equivalent, based on run percentages (EVEs) as measures. The pottery is recorded for fabric and form, decoration and other features such as manufacture, graffiti, and condition using a system of mnemonic codes developed by the City of Lincoln Archaeology Unit. At the end of the records for each context, a 'pseudo' fabric, ZDATE, records the date range of the pottery for that context, focusing on the latest feasible date. A further code, ZZZ, is used to record any comments about the context, such as condition, spread of dates or any other useful contextual information.

This is the system used for the nearby large, and predominantly, late Roman site at West Heslerton, thereby providing valuable comparative data for the unique 'ritual' complex at that site. The statistics from the 'shrine' complex at West Heslerton are particularly comparable (1322 sherds, 19945 grammes and 9.68 EVEs), and have been referred to in this report. The fabric and form descriptions are described in detail in Darling and Precious (forthcoming).

The resulting archive database (Appendix 1- *willtot.xls*) is recorded using *Microsoft Windows 98, Excel 2000 9.0* delineated by 14 recording fields (Appendix 3 Abbreviations – *willabb.doc*). The

illustrations have been drawn by David Hopkms, and the Catalogue of the illustrations is listed as Appendix 2 (*wildwg.xls*) These details are retained in the overall BPTSEP project archive

Dating

Table 1 shows that the stratified Roman pottery is mainly mid to late 4th century, with many Huntcliff jars, hand made coarse wares and mortaria from the Crambeck kilns (Types 7 & 8) Some of this material was found in association with post-Roman wares (6000, 6166, 6178, 6232, & 6261) two of which (6166 & 6261) are early Anglo-Saxon (see Table 2) This suggests that the two cultures were occupying the same area within a short period of time

The earliest pottery found of the site is late 1st century Evidence suggests that a small community occupied the site from the early to mid-2nd century A mortaria from Northern Gaul (Illustration No 82) was found of a type generally dated from c 80-150 However, the vessel occurred alongside 4th century material and in a disturbed area, (4001) Several burnt fragments of a 2nd century flagon were also discovered, (6165) Its fabric is similar to Ebor white-slipped ware, which disappears from York sites by the early 3rd century As (6165) lies over (6166), which contains Roman pottery dated to 350-410 and an early Anglo-Saxon sherd, the flagon is likely to be residual

More significant is the presence of a handle from an amphora with a stamp reading DEF (Illustration No 2) The stamp is identical to one from Corbridge on the Roman Wall and is of probable 2nd century date It was also found out of context and with late 4th century pottery Another anomaly is the presence of five fragments of 2nd century central Gaulish samian pottery in later layers However, as these and the stamped handle are very distinctive they may have been found and preserved in antiquity

Ceramic evidence suggests that occupation in the later 2nd to 3rd century is equally sparse 58 sherds are from a single, smashed vessel from (6242) (Illustration No 35) A few later 2nd to 3rd century wares also occurred in the ploughsoil 3rd century pottery is rare, and later 3rd to early 4th century pottery is mainly represented by a single vessel (6196 - 15 sherds)

Despite the number of structural sequences from the site there are only four definite sherd joins. These occur within the driveway sequence between (6260), (6262) and (6291) and in Trench 3 between (3002) and (3003). An incidence of similar but not definite joins occurs in Trench 4 between unstratified material (U/ST4) and (4001). The ceramic evidence from some of these sequences show a chronological development, for example ditch [6074] – (6098), linear feature, a possible kiln, [6089] – (6090), and gully [6278]/[6277]/[6243] – (6225)/(6251)/(6249). One of the principal Roman structures from the site, driveway and road [6259] – (6264), produced wares dating from the mid to late 4th century, but there was also an early Anglo-Saxon sherd from (6261), which occurred within the sequence. A similar pattern occurred within ditch [6169] – (6162) that produced pottery of mixed date. The lowest layer (6168) contained mid to late 4th century wares, but an early Anglo-Saxon sherd together with mid to late 4th century Roman pottery came from the layer above (6166). However, layers above (6166) produced pottery of 2nd (6165), and at least later 2nd century date (6162).

The West Lilling site has produced pottery of the latest recognisable types found in Yorkshire. Although these cannot be dated by conventional means later than c 410 AD it is possible that identical pottery continued in use well into the 5th century and are therefore contemporary with the early Anglo-Saxon sherds found with them.

Condition

Many of the sherds found are quite large suggesting little disturbance. Almost a quarter shows some degree of abrasion. This is particularly noticeable on the Crambeck grey wares. Burnt sherds account for almost 7% of the total but this is increased when similarly altered sherds from the abraded and leached categories are taken into consideration. The burning can be attributed to the use of the vessels for cooking but some have been burnt over the fractured edge suggesting burning after breakage. At least 10 sherds have been burnt on the interior, a feature noted also at West Heslerton. This factor is unusual on Roman pottery but often occurs on Iron Age and Saxon wares.

Although the calcite-tempered wares are generally in good condition almost all have voids in the surfaces where the calcite has leached out, either during the original firing or through cooking use. A number of sherds have been stained, probably as a result of contact with iron such as an iron pan.

The Wares

The Roman pottery is classified into thirty-six fabrics with six principal groups (see Table 3). Most of the pottery could have been obtained within 30 miles of the site. In late Roman Yorkshire some of the wares are known to be from large potteries like Crambeck. Others might be regional products, the work of local potters. In particular, the calcite tempered fabric, used at West Lillington in the 3rd and 4th centuries, might have been produced at several small workshops identified from Knapton to Filey. A programme of thin-section analysis was undertaken to determine whether or not the Speeton Clay was used as a raw material, as it was for the CALC and BLSF vessels used at West Heslerton. Full reports on the results of the thin section analysis and the chemical analysis are available in the electronic archive.

The coarse quartz tempered wares (GRQZ) are tempered with a coarse quartzose sand, including fragments of sandstone and shell fragments. These are similar to Iron Age and Anglian wares from Yorkshire and were probably tempered with sand from the Vale of York. Thin-section analysis suggests that these are mainly identical suggesting that either the GRQZ industry continued into the Anglo-Saxon period or that both cultures were using the same clay sources.

Chemical analysis suggests that there is little difference between the supply of CALC, CALOX and BLSF to both West Lillington and West Heslerton but a group of CALC from West Heslerton has a higher calcium content. There is, however, chemical evidence to suggest that the GRQX from West Lillington and West Heslerton is different although the West Heslerton GRQX is similar to the Anglo-Saxon sherds from West Lillington.

There is a low proportion of calcite-tempered compared to the relatively high amount of Crambeck. This is unusual on rural sites in East Yorkshire where calcite-tempered ware generally accounts for a much higher proportion of the assemblages. The differences between the ratios of calcite-tempered and Crambeck products at West Lillington and the other sites may be due to the close proximity of the Crambeck kilns to the site, and thus the availability of these wares. It could also be an indication of the function of the site, suggesting that cooking was not a prime function but that serving and consumption was. There is also a relatively high proportion of mortaria from the site, again mainly Crambeck products, which were used for the preparation of food. As the excavated trenches appear to be very

close to a villa the pottery may reflect the status or lifestyle of the occupants, and provides a good contrast to nearby rural sites

The calcite-gritted wares appear to be quite high-fired and darker grey in colour than those from West Heslerton, for example. These are mainly Huntcliff jars, which tend to be higher fired, and were manufactured using hand and slow-wheel techniques. Another difference is the small amount of the conspicuous, oxidised variant (CALOX) at West Lilling in comparison with West Heslerton where it forms a marked proportion of the calcite-tempered wares, especially in terms of storage jars. The only drawable representative from West Lilling is a plain-rimmed dish (Illustration No 75)

Huntcliff jars and bowls form the bulk of the calcite-tempered assemblage at West Lilling (Illustration Nos 58-64 and 71-2). There are a variety of rim-types including later hook-rimmed variants (Illustration Nos 65-6), large examples (Illustration No 69), and an unusual type with two, rather than one internal groove (Illustration No 67). Similarly the earlier Knapton-type jar is only represented by one or two examples (Illustration No 53). There are slightly more examples of the intermediate 'S' profile jars and bowls (JCUR and BCUR), including the later more strongly hooked type (JCURS – Illustration Nos 54-57 and 70). Open forms are rare consisting of plain-rimmed dishes (DPR) and those with a more thickened rim similar to those noted at Malton (DM452 – Illustrations 73-74). This group is almost identical to that from the 'shrine' assemblage at West Heslerton, and therefore likely to be contemporaneous.

The incidence of the remaining fabrics from the Coarse group, Black surfaced ware (BLSF), and coarse quartz-tempered ware (GRQZ), are comparable to both the York and West Heslerton assemblages. Both are distinctive but minor industries. BLSF appears to come from a similar source to the calcite-gritted wares, but GRQZ is definitely from a different source. The Huntcliff and curve-rimmed jars and bowls in BLSF (Illustration Nos 44-46) and the everted- and upright-rimmed jars in GRQZ (Illustration Nos 48-52) would not be out of place in the West Heslerton assemblage.

The Crambeck grey products dominate the reduced ware total. There is a wide range of form types and, in sharp contrast to the Coarse group above, consists mainly of open forms. Bead and flanged

bowls and dishes are the most common type (Illustration Nos 22-27), including the latest type with internal, burnished, wavy-line decoration (Illustration No 25)

Other open forms include wide-mouthed types, groove-rimmed dishes or bowls, and those similar to samian form Dr 38 (Illustration Nos 17-21) Other dishes and plates are plain-rimmed or as Crambeck Type 10 (Nos 28-29) Among the Crambeck grey ware assemblage there is a range of fabrics that have slightly coarser sand-tempering The rarer closed forms consist of everted-rimmed beakers and jars, as well as narrow-necked and handled types (Illustration Nos 13-15) Other forms, not illustrated, include collared-rimmed and wide-mouthed types

Miscellaneous grey wares, probably from the Norton kilns are well-represented Although 58 sherds are accounted for by a single vessel, the proportion of grey ware is quite high Rare, known fabrics in this category are single sherds of both shell-tempered Dales Ware, from North Lincolnshire and Black-burnished ware 1, manufactured in Dorset Both fabrics are comparatively rare in East Yorkshire and the occurrence at West Lillington conforms to the norm Other fabrics in this category, GRFF, GRSA and GRSAN are likely to be variants of the grey wares, but late Roman grog-tempered sherds are known at York, and elsewhere

Un sourced grey wares have a different distribution to the Crambeck varieties in that closed forms, mainly jars, are more common than open forms Burnishing is relatively common on jars These include narrow-necked, lid-seated and everted-rimmed types, especially those with burnished acute lattice decoration classed as cooking pots (Illustration Nos 30-8) No 38 is a distinctive example with a flanged rim and two rows of raised, almost ribbed-like decoration on the shoulder for which no direct parallel has been found The open forms also reflect the influence of the lattice decoration of the black-burnished industry with two examples featuring this type of decoration (Illustration Nos 39-40) Other types include flanged, triangular rimmed bowls and dishes as well as bead and flanged examples and straight-sided, plain-rimmed dishes (Illustration Nos 40-43)

The Oxidised group, as a whole, is similar in content and proportion to that from West Heslerton, and accounts for a small proportion of the assemblage It is mainly represented by un sourced oxidised

wares (OX), frequently with orange to red-brown fabrics and ill-sorted quartz tempering, not dissimilar to the Eboracum fabrics produced at York. The identification is not certain, although the majority of the forms appear to be mid- rather than late Roman types, in particular the flagon, segmental bowl, and possibly the copy of samian form Dr 31 (Illustration Nos 4-6). One sherd, which could more certainly fit into this category, is a sherd with traces of a white slip (OXWS) that is very similar to the Ebor white-slipped fabric, and absent from York assemblages by the early 3rd century.

Crambeck oxidised ware (CROX) and late parchment ware (CRPA) attest to the importance of the Crambeck industry in the late Roman period, although CROX is generally a rare component. The forms consist of bowls similar to samian form Dr 38, a groove-rimmed bowl and several examples of Crambeck Type 10 plate (Illustrations 7-9 and 11-12). Illustration No 10, a wall-sided plate, is similar to Crambeck mortaria Type 7. Apart from the Crambeck products, most of the remaining fabrics in this group, OXL and OXSA are probably variants of the OX group. Exceptions are a highly micaceous sherd, a fabric (OW3) noted at Malton (Bidwell and Croom 1997, 63 and 68), and OXQZ. The latter is the first noted incidence of an oxidised equivalent of GRQZ, discussed above.

However, the most distinctive of the oxidised vessels is the rare presence of a virtually complete lamp with three, applied nozzles, with sootmg at the tips (Illustration No 1). The lamp has a concave top with a small pouring hole and a slight footmg. It is wheel made in a fairly hard, orange-red fabric. Sparse white mica is visible in the surface (F, <0.1mm). The vessel, which is in fairly fresh condition, is associated with 4th century material and has traces of an applied handle at the back (6090). It is identified as provincial, probably local in origin and is probably 3rd century in date.

Mortaria form a small and distinctive group and can be paralleled at West Heslerton. Products from the Crambeck kilns (MOCR) account for the majority and show a definite chronological development. They range in date from 280 to 410.

Slightly earlier in date are mortaria from the Nene Valley (MONV) and Mancetter-Hartshill area (MOMH) during the 3rd century into the 4th. A single fragment from a probable Rhmeland source (MORH) may also be of 3rd century date. A single sherd of mortaria from Malton and other sources in

Yorkshire (MONY- Illustration No 83) occurs from the later 2nd into the mid-3rd century. There is also a fragment of a Central Gaulish samian mortarium current from c. 170-200. However, the earliest example is the vessel made in Northern Gaul in the Pas de Calais region during the later 1st to mid-2nd century, mentioned above.

Fine wares are rare and are mainly represented by products made at the Nene Valley kilns from the 3rd to early 4th century. Beakers are most common and there is a fine example of a rouletted Castor box (Illustration No 3). An abraded example of a bowl in the style of samian form Dr 38 came from the Oxfordshire kilns. These are indicative of long distance trade with Romano-British manufacturers that was in decline by the mid-4th century. This group also includes most of the wares imported from the Continent, samian from Central and East Gaul. Most are fragments of Dr 31 dish forms, but also include sherds of cup form Dr 33 and a decorated piece from a mould-decorated bowl. They were imported from the 2nd to the early 3rd century and are indicative of earlier occupation.

Other goods from the Continent consist of amphorae from several sources, the most common being those containing olive oil from Southern Spain. Two examples, including the vessel with a stamped handle mentioned above, are 2nd century in date but the remaining sherds are in a later, finer fabric common from the mid-2nd to the 3rd century. A rarer example in the same fabric is a probable sherd from the noticeably thinner walled Dressel 23. This is current from the 3rd to the 4th century, which fits well with the late date range of the site. Lastly, a sherd from a flat-bottomed Gauloise 4 amphorae containing wine from Southern Gaul is broadly dated from the 1st to the 3rd century.

Function

The assemblage is typical of domestic occupation with a high emphasis on cooking wares. However, there is also a larger than average amount of table wares mainly represented by Crambeck products that are in a relatively fine fabric (see Table 4).

Finer tableware is mainly represented by 2nd century samian, but also two fine vessels in Nene Valley and Oxfordshire colour-coated ware. Drinking vessels are almost all Nene Valley colour-coated.

beakers that tend to break into small fragments. However, this group also includes grey ware examples and a samian cup. Drinking vessels are almost equal in quantity to liquid holders, again an indicator of a more refined culture.

The most distinctive element is the relatively high amount of mortaria, again indicative of a culture still refined enough to use vessels for the blending and preparation of more sophisticated meals. This is further emphasised by the presence of an almost complete lamp that may have been used at the table or to light a household shrine.

There are very few storage vessels apart from four sherds of Dressel 20 amphorae, probably from four different vessels. These amphorae were often reused as storage vessels. One vessel, not illustrated, is a coarse and very thick body sherd in an oxidised fabric that has clearly been repaired. Insufficient survives, but it may have had an industrial use (5000).

Conclusions

The assemblage from West Lilling conforms to other late Roman assemblages from North Yorkshire in that jars form the bulk of the assemblage. The imported wares from the Continent together with fine wares and other widely distributed pottery from Romano-British manufacturers attests to the relatively high status of the nearby villa. The occupants could clearly afford imported goods and fine wares from the mid 2nd century and into the 4th. The evidence therefore tends to confirm the view that wealth moved away from the towns to the rural villas during the late Roman period.

It has been shown that the bulk of the material dates to the late Roman period, confirmed by the externally datable presence of several late Crambeck mortaria types to at least 350 AD. However, the marked similarity of the assemblage from West Lilling to that of the 'shrine' group at West Heslerton, which is the latest on that site, suggests that they are contemporaneous. A coin of Constantine (dated to AD 341-346) from the wall matrix of the 'shrine' suggests that it was constructed after that date.

However, the question remains as to how long this occupation lasted. This may be found within the group of hand made, coarse wares of sub-Roman type (GRQZ). They are found in York in small proportions associated with Huntcliff types frequently in post-Roman layers, and at other sites such as Beadlam. Agam, at Filey, also in association with Huntcliff wares although in larger quantities. As the dating of the signal stations may be later than previously thought, this would give a closer date span for these wares. The material from West Lilling provides further evidence for the continuity of these wares as they are present as fresh, large sherds in association with early Anglian pottery. There are two incidences for this from West Lilling, Contexts (6166) and (6261). Although, this might indicate continuity into the 5th century there is no firm evidence. Nevertheless, the material from West Lilling is a valuable addition to the body of evidence for late Roman occupation in North Yorkshire.

The Anglo-Saxon pottery

Alan Vince

The excavations at West Lilling produced fragments of twelve vessels of Anglo-Saxon character, full details of which are available within the electronic archive. Except for two examples they came from an area clearly separated from the late Roman settlement (6004), (6005) and (6012). One sherd, from (6166), came from the backfill of a Roman feature and the second, (6261), was associated with late 4th-century wares. Another sherd came from a medieval plough furrow (6228), and is the only one in the collection to show any sign of abrasion.

Fabric

The vessels belong to three fabric groups: the most common is tempered with a sandstone and quartz sand (SST) then there is a single vessel containing acid igneous rock fragments (CHARN) and finally a vessel containing few obvious inclusions (MISC NY). The first two of these fabrics are well-known in definite Anglo-Saxon contexts in Yorkshire whilst the third is not and is only really dated by its context.

Form and function

Little is known about the uses of Anglo-Saxon pottery from West Lilling. Some vessels display evidence for a cooking purpose, judging by the soot on the outside or the burnt food or 'kettle fur' on the inside. The larger decorated vessels may have been purely ornamental and their shape is uncertain. The untempered vessel appears to be a 'thumb pot', fashioned out of a single ball of clay without the use of coiling, and has a lip, which might imply that it contained a liquid. It might have been a very small lamp.

Discussion

The main interest in the West Lilling Anglo-Saxon pottery is the relationship of the settlement in which it was used to the late Roman villa, although we are hindered somewhat by the lack of clearly Anglo-Saxon structural evidence. Several models would fit the data.

Firstly, it is possible that the Anglo-Saxon settlement post-dates the Roman settlement entirely and was located on ground to one side of the settlement. If this is the case, then the sherds found in the Roman settlement are either intrusive or indicate later disturbance of the pottery.

Secondly, the pottery may reflect the establishment of an Anglo-Saxon community close to, but separate from, a surviving late Roman villa. In this case the proximity of the Anglo-Saxon sherds to the late Roman ones in the villa area would represent limited contact between the two communities.

Thirdly, it is possible that there was only one community, which in the late 4th century used late Roman style pottery, but as Anglo-Saxon culture spread through eastern Yorkshire adopted the use of Anglo-Saxon pottery. The two settlements would then be successive farms used by the same community during the late 4th and 5th centuries.

There are no characteristics of the Anglo-Saxon pottery collection, which allow us to choose clearly between these three options. The potsherds are large and, with the exception of that from (6228), they are fresh and may well have been discarded close to where they were finally deposited. There are no stamps or other traits which would clearly indicate a late date within the early Anglo-Saxon period (and

therefore favour possibility one) If we cannot 'explain away' the association of fresh late Roman and Anglo-Saxon sherds then the second and third possibilities are valid and the first is not

Acknowledgements

The comparative data used in this report was collected as part of post-excavation work on the West Heslerton analysis and publication project I am grateful to Dominic Powlesland and English Heritage for their support

Ceramic Building Materials

S Garside-Neville

Introduction

This material ranged in date from the Roman period to the post-medieval era It comprised Roman roofing tile (tegulae and imbrices), hypocaust material (flue tile) and brick, together with a small amount of medieval roofing tile, and land drains The bulk of the material was Roman, much of it very abraded, and this report will focus on this material The medieval and later material, and including some stone fragments will not be discussed, but have been recorded and the details are retained in the project archive, which also includes the overall catalogue of material

Methodology

All material was recorded on a proforma based on that used by the Museum of London Specialist Services The ceramic building materials were recorded by assembling a fabric series This fabric series was then compared to the York Archaeological Trust's (YAT) fabric collection that centres on York CBM Measurements, where complete (i.e. each edge was moulded and not broken), were taken This is to add to the systematic comparison of material between sites, and ultimately to characterise the various ceramic building materials industries in the area Further details about the condition of the piece, the presence of mortar along broken edges (indicating probable reuse), and any marks, including footprints, finger marks, keying, etc., were recorded where necessary

Part of the material has been put aside for discard. This comprises fragments that, besides yielding perhaps only one complete measurement (normally thickness) and a fabric match, have no distinguishing features that might be of use for further study. The rest of the ceramic building materials (including flue tile keying, good examples of material, animal and human marks, etc.) are to be retained as part of the archive. The data was then transferred onto an Excel spreadsheet to facilitate analysis and aid with compiling the publication report. The computer record also serves as a security copy.

Fabrics

Most fragments of brick and tile were matched with a site-specific fabric type series (F1-13). The fragments not matched with the type series were too small to compare usefully. The fabrics were examined with x10 hand lens and compared with fabric samples from the York Archaeological Trust's collection. From the comfortable matching of the most common fabrics with the YAT sample, it is likely that most of the CBM at West Lillings has been brought in from York.

Imbrex

Imbrex is part of the roof-tile system, and is used in conjunction with tegulae. The unbrices from this site (73 fragments totalling 10 895 Kg) range in thickness from 13-24mm. Of particular interest is the Legionary tile stamp from context 6262. Though extremely battered, it is possible to discern that the stamp is probably in a style associated with a 6th Legion example, though it cannot be matched for certain with Betts' catalogue (1985, 209-218), but stamps 46, 47 and 72 seem similar.

Context (4009) yielded an imbrex fragment with a possible integral chimney pot. Unfortunately, the fragment only hints that the piece is rising to form a chimney, and it could be that the unbrex was misshapen some time during manufacture.

Tegula

Tegula roof tiles are used in conjunction with unbrex. The tegula from this site (58 fragments totalling 15 210 Kg) have thickness measurements between 16-27mm, and flange heights ranging between 33-56mm. The flange profiles differ greatly which may indicate different factories or different periods of

manufacture, or both. Several tiles seem to have deliberately had the flanges removed, which may indicate reuse, as the tile would then have been effectively flat and usable as a brick.

There is one example of a nail hole from context (5000). This may represent a tegula that was to be hung on a steeper pitch of roof than normal, or could be a tile that was made to be in a certain position on the roof, for example on the top or bottom course (Ward, 1999, 14).

Flue

The flue tile (67 fragments, totalling 7 665 kg) is box flue tile, plus one possible fragment of half box flue. The box flue has two types of keying: combed and finger impressed. The keying would have been used to help mortar adhere to its surface. Combed keying is thought to have been used from the early 2nd century onward (Betts & Crowley 1996, 53). In York, this might mean that the combed tile is associated with the 6th Legion that replaced the 9th legion, and took up residence in the fortress by the early 2nd century. The thickness of the flue tile varies from 13-26mm. There are a couple of measurements indicating that the flue tile might have been between 76-98mm wide. Most of the knife-cut vents (allowing the linking of flue tiles laterally) appear to be rectangular.

The possible fragment of half box tile (or perhaps wall tile), which has finger impressed keying, is likely to be between 1st to early 2nd century date, as it is thought to be an early form, though has been used as late as the 3rd century (Crowley, 1995, 150).

Roman Brick

For the purposes of this report Roman brick is any fragment of Roman ceramic building material that has no feature indicating any other form (171 fragments totalling 22 835 Kg). Therefore, some of the fragments might, for example, come from the flat body of a tegula. Some of the thicker pieces are likely to come from brick made for use in the stacks of a hypocaust or its floor, or perhaps in walling. However, some of the fragments might have been deliberately reused as bricks, there is evidence of flanges from roof tile being knocked off to make a flat brick (see Tegula section above). Thickness measurements range between 16-57mm.

Hoof and paw prints are most often found on this category of ceramic building material. The animal marks are discussed below.

A fragment from context (6262) appears to have some sort of 'pie crust' decoration along a moulded edge. Whether this is deliberate or not is uncertain, as it might have happened accidentally during manufacture.

These four main types of structural ceramic building material were all recovered from two distinct areas of the site, whilst across the rest of the excavated area finds of this type were extremely rare. The first was the area of complex archaeology immediately to the southeast of ditch [6074], including Trenches 4 and 5, where they were present in late Roman ditch fills, layers and the oven, and also within medieval plough furrows in this part of the site. This concentration appears to relate to the structural remains found in Trench 4, suggesting that further, more substantial buildings are present to the southwest of the areas investigated. The second concentration was within the layers forming the track to the southeast, in the group of ditches immediately beyond this and again within the medieval furrows. This part of the site has produced no in-situ evidence for buildings and the ceramic building material deposited here may in fact have been transported for use in the trackway.

The remainder of the ceramic building material assemblage takes the form of small groups from particular parts of the site. A small amount (5 fragments totalling 2.085 Kg) of mortar and *opus signinum* was retrieved from Trench 4, from a foundation construction deposit and a layer of demolition debris. A small amount of daub (14 fragments, totalling 160g) was retrieved. The majority of this came either from one of the fills of the oven or from the upper fill of a ditch close to the oven. It was almost completely absent from the rest of the site suggesting that it was not in general use as a walling material for buildings, but was restricted to particular structures. A single Tessera, of uncertain identification, was found within the westernmost of the two main concentrations of ceramic building material.

Markings

Foot prints and finger prints

There are four examples of animal marks on bricks. Three appear to be dog paw prints (2002), (5000), (6217) and the fourth, (which is very faint), from context (6262), could be the marks of pig, sheep or goat.

There are several finger marks on tiles: on flue tile from context (5000), (5013), and (6253), brick from context (5013) and on unbred from (4009). These are caused by the tile-maker during manufacture.

Signatures

There are some fragments of signatures, but no complete examples. Signatures are thought to be marks of particular tile-makers, and appear most frequently on tegula.

Conclusion

Given the presence of the 6th Legion tile stamp and combed flue tile, the materials are likely to be dated from the 2nd century onwards. Some of it may be legionary material, perhaps sold off to civilians.

There is much evidence of re-use and abrasion resulting from usage over a long period.

It is uncertain whether the ceramic building materials from West Lilling have been reused on site or after use in York. Most of the material has been found in contexts associated with demolition or in ditch fills, which indicates it was brought on the site for a structural purpose, and then discarded. This suggests a high status usage such as on a villa site.

Biological remains

Allan Hall, Deborah Jaques, Stephen Rowland, Harry Kenward and John Carrott.

(Palaeoecology Research Services, Shildon, Co Durham, and Environmental Archaeology Unit, University of York)

A series of sediment samples and approximately 20 litres of hand-collected bone were recovered from the deposits examined during the evaluation and excavation, almost all from the fills of ditches of late

Roman date Evaluation showed that several of the samples contained charred or uncharred macrofossils whose detailed examination would provide significant information about the local environment and human activity (discussed in detail by Hall et al 2001)

The sediment samples were sieved and, where appropriate, paraffin-floated for plant and invertebrate macrofossils Plant, biological and artefactual remains were recorded Adult beetles and bugs were recorded at the 'detailed' level of Kenward (1992), other invertebrates being recorded semi-quantitatively

The bone was recorded in detail, weighed by category, and subjective records made of preservation, angularity and colour Fragment size, dog gnawing, burning, butchery and fresh breaks were all noted Fragments not identifiable to species were grouped into three categories large mammal (cattle, horse or large cervid), medium-sized mammal (caprovid, pig or small cervid), and completely unidentifiable Total numbers of fragments by species were recorded with the number of fragments and teeth yielding ageing or sexing information

Detailed results, by context and period, with data for plants and invertebrates from each sample, and some derived data for the vertebrate remains, are given in the Technical Report (Hall et al 2001), the details of which are available in the electronic archive, together with a table presenting a full species list for plants and animals

Most of the material was late Roman, and high concentrations of uncharred plant and invertebrate material were restricted to some ditch fills of this period Many of the samples contained a few chaff fragments - mostly of spelt wheat (*Triticum spelta* of the type most often recorded from Roman Britain) - and a few charred cereal grains Many subsamples contained material suggestive of burnt turves, possibly heather (cf *Calluna vulgaris*) basal twig/root fragments and charred root/rhizome fragments Some samples contained uncharred remains (heather and grassland taxa)

Some ditch fills yielded plant and invertebrate macrofossils (2025), (6150), (6289) suggesting a mixed agricultural landscape of cereal cultivation and grazing land The more abundant plant remains

probably came from vegetation close to the ditches they were tall herbaceous perennials such as hemlock (*Conium maculatum*), stinging nettle (*Urtica dioica*), goosefoots (*Chenopodium* Section *Pseudoblitum*), marsh yellow-cress (*Rorippa palustris*) and toad rush (*Juncus bufonius*)

There was no evidence from the insects for scrub or woodland, although the plant remains indicated small trees such as elder (*Sambucus nigra*), and hawthorn or blackthorn (*Crataegus/Prunus spinosa*) in the vicinity. The fruits of ash (*Fraxinus excelsior*), and a bark beetle, (*Leperisinus ?varius*, usually found in ash trunks) were also recorded. Insects associated with hedgerows were effectively absent. Overall, the impression is of an intensively exploited agricultural landscape typical of the Vale of York in Iron Age and Roman times.

Vertebrate remains consisted mostly of poorly preserved fragments and few could be identified to species. Some contexts (6075), (6090), (6092), (6095) and (6125), contained a high proportion of burnt or heavily calcined fragments indicative of the disposal of burnt waste material.

Acknowledgements

The authors are grateful to Guy Hopkinson and Graham Bruce of On-Site Archaeology for providing the material and the archaeological information, and to English Heritage for allowing Allan Hall and Harry Kenward to contribute to this report.

Discussion

During the post-excavation analysis attempts were made to divide the site into dated phases of activity. However, with the exception of the isolated Anglo-Saxon features towards the northwest limit of the site, the remaining significant features were either dated to the late Roman period or undated. Many of the features are broadly dated to the 4th century and without stratigraphic links, could not be assigned to shorter phases of activity. Within limited areas of the excavated trench the archaeology did include chronological development, but, frustratingly, it has not proved possible to extrapolate the information provided by these areas to encompass the site as a whole.

Interpretation of the excavated area is difficult due to the lack of relationships between features and the very narrow, linear nature of the main trench. However, additional information is provided by the geophysical survey. The overall site plan indicated by the results of the geophysical survey is far from complete, with a blank area along the southeast part of the surveyed route, where features were clearly present. During the evaluation and excavation phases of the work it was noted that this area suffered from an extremely high water table, which may have affected the geophysical recognition of features. The combined results of the geophysical survey, evaluation trenches and excavation enable us to identify a number of key features, which make up the site as a whole.

The Enclosure

The most coherent elements of the geophysical survey form the north and west sides of a rectangular, double-ditched, enclosure. Only the ditches on the west side were recognised by both the geophysics and then tested through excavation. These ditches were approximately 10m apart. Although not recognised by the survey, what appears to be the double ditched, east, side of this enclosure was also encountered during the excavation. The two innermost ditches were approximately 70m apart, representing one internal dimension of the enclosure. The geophysical survey did not recognise a clear southern boundary for the enclosure, and as this was well beyond the limited area threatened by the pipeline, no excavation was necessary.

The Droeway

The space between the two ditches forming the east side of the enclosure had been utilised by a track or drove-way. The surfaced patches suggest that occasional repairs were made to this drove way on an ad hoc basis. The inclusion within the sequence of repairs, of an unbraded sherd of early Anglo-Saxon pottery, may indicate that this droeway continued in use beyond the main late Roman occupation, although there are indications that the late Roman and early Saxon material may have been in use at the same time. Although unconfirmed through excavation, the geophysical survey encountered a strong linear anomaly in the northeast corner of the survey area, this may represent a continuation of the droeway.

Buildings/Structures

Within the western part of the enclosure a series of structural elements indicate the presence of buildings and related surfaces. Definite building foundations were only found within evaluation Trench 4, not in the main excavation, or any of the other evaluation trenches to the northeast of this. The main excavation encountered a cobbled surface, probably forming a yard associated with the buildings. The structures are relatively slight and taken in isolation would appear to represent little more than small scale rural occupation. However, the artefacts, especially the Ceramic Building Material, suggests that these buildings are of significant status. This apparent contradiction may have occurred because the archaeological trenches have encountered only the periphery of a larger complex of buildings, with the main core of occupation being located to the southwest. Unfortunately the geophysical survey does not give any coherent layout of this possible continuation of the buildings.

The Ceramic Building Material includes substantial quantities of tegula and imbrex roofing tile, flue tiles, probably from a hypocaust system, and bricks, which may also be from a hypocaust. The vast majority of the Ceramic Building Material was concentrated in two areas of the site. The smaller of these was within and immediately surrounding the driveway, whilst the main concentration was centred upon Trenches 4 and 5, and the part of the main excavation between them. The remaining part of the interior of the enclosure and outside it, were devoid of this material. Within a rural setting such an assemblage indicates the presence of a highly Romanised building, such as a villa. Much of the assemblage shows signs of re-use, such as the deliberate removal of tegula flanges to form flat tiles or bricks. The broad date range, from the 2nd century onwards, and variety of fabrics from which it was produced, suggests that the Ceramic Building Material has been gathered up from a variety of sources, probably in York, and taken out to West Lilling to construct a building or group of buildings. In addition to the Ceramic Building Material, the occasional occurrence of painted wall plaster and blown window glass, also in Trench 4, further indicate the likely status of late Roman buildings in the vicinity.

The Oven

The feature tentatively identified as an oven or kiln during the investigation, [6089], shares certain characteristics with some temporary coru-driers identified elsewhere. Although being of rather small scale and lacking any stone or tile lining it would appear to fit into the "Bowl Furnaces" category.

(Morris 1979, p 84) The position of this feature relative to the enclosure is noteworthy, being situated between the two ditches, [6074]/[5008] and [6312]/[4004]/[5028], forming the western edge. Although there was no obvious stratigraphic relationship between the oven and the nearest stretch of ditch, [6312], the pottery suggested that the oven was the earlier of the two. If this were the case then it would seem that the well-defined double ditched enclosure post-dates a previous phase, or phases, of occupation. A number of the excavated features "within" the latest, well-defined, enclosure contained earlier pottery, further suggesting earlier occupation, which may or may not have been enclosed.

Field System

Beyond the main enclosure most of the archaeological features were ditches. Many of these were broadly parallel with the western side of the enclosure, with little visible intercutting. Very little dating evidence was available for the ditches furthest from the main enclosure, with much of the pottery that was present only providing fairly broad dates. It is therefore unclear if these ditches functioned alongside the enclosure or pre-dated it, forming a field system relating to the other slightly earlier occupation discussed above. The similarity of alignment could either result from the enclosure being fitted within an already divided landscape, or from the field system being laid out to respect the boundaries of the enclosure.

The Palaeochannel

Although it could not be independently dated the palaeochannel appears to have influenced the siting of the late Roman occupation and the small-scale early Saxon activity. The only late Roman features found to the northwest of the channel were the small group of pits. No clearly Roman ditches were found to the northwest of the channel, or cutting into its fills, but the first [6033] of the large number of ditches was just 4m from its southeast edge. This ditch was broadly parallel with the edge of the channel, but differed slightly from the orientation of the enclosure to the southeast. Some of the early Saxon activity also appears to respect the line of the channel, with the group of features, exclusively of this date, being restricted to a small area to the northwest of it. It would appear, therefore, that this channel might have formed a significant, local, topographical feature in the late Roman and early Anglo-Saxon periods, running down from the higher ground at the northeast to the old course of the River Foss to the south.

A local example of a similar enclosure exists approximately 1 km to the south at Lilling Green (Swan et al, 1993, 20) which has been recognised through aerial photography. Whilst the Lilling Green site incorporates a more extensive pattern of crop marks it appears to include a double ditched, rectangular enclosure, on a comparable scale to that found at Site 169. The external complex of fields broadly follow the alignment of the main enclosure. Whilst internal buildings have not been confirmed at Lilling Green through excavation, field walking has generated 4th century pottery, indicating that it is contemporaneous with our newly discovered site.

Slightly further to the east, upon the Yorkshire Wolds, aerial photography provides examples of a number of instances of Romano-British rectangular double-ditched enclosures, (see Stoertz, 1997, Fig 35). Limited intrusive fieldwork has been undertaken at two of these at Wharram Grange and Wharram Le Street, which like the two Lilling settlements, are close together (again approximately 1 km apart). The comparison with Lilling is further strengthened by the evidence for tile roofed buildings, which were of sufficient status to incorporate mosaic floors, and the pottery dating for both the two Wharram sites, with the height of occupation being in the 4th century (Rahtz, et al 1986). Small scale activity of early Saxon date was also present at Wharram Grange.

In view of the very limited nature of intrusive investigation undertaken on this site (in total the evaluation and excavation trenches amount to less than 3% of the area covered by the geophysical survey) valuable information regarding this late Roman settlement has been obtained. The mitigation employed has ensured that the vast majority remains preserved *in-situ*.

BPTSEP 169
 West Lilling Report Tables.

Table 1 – Plotdate of the stratified Roman pottery from West Lilling by weight (25805g)

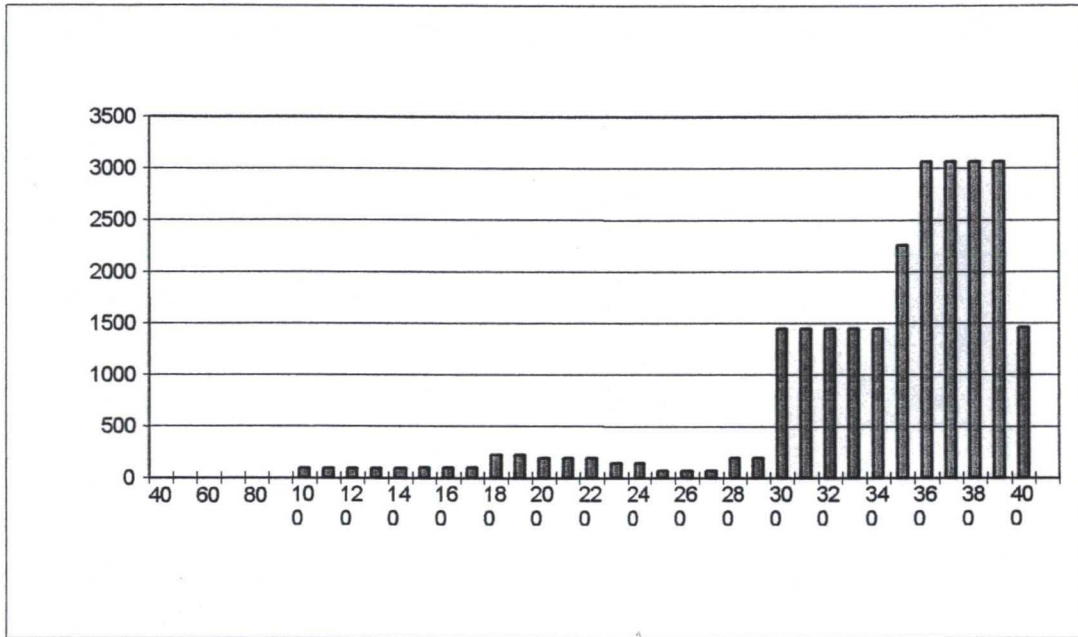


Table 2 – Plotdate of the Roman pottery from immediate post-Roman layers at West Lilling by weight

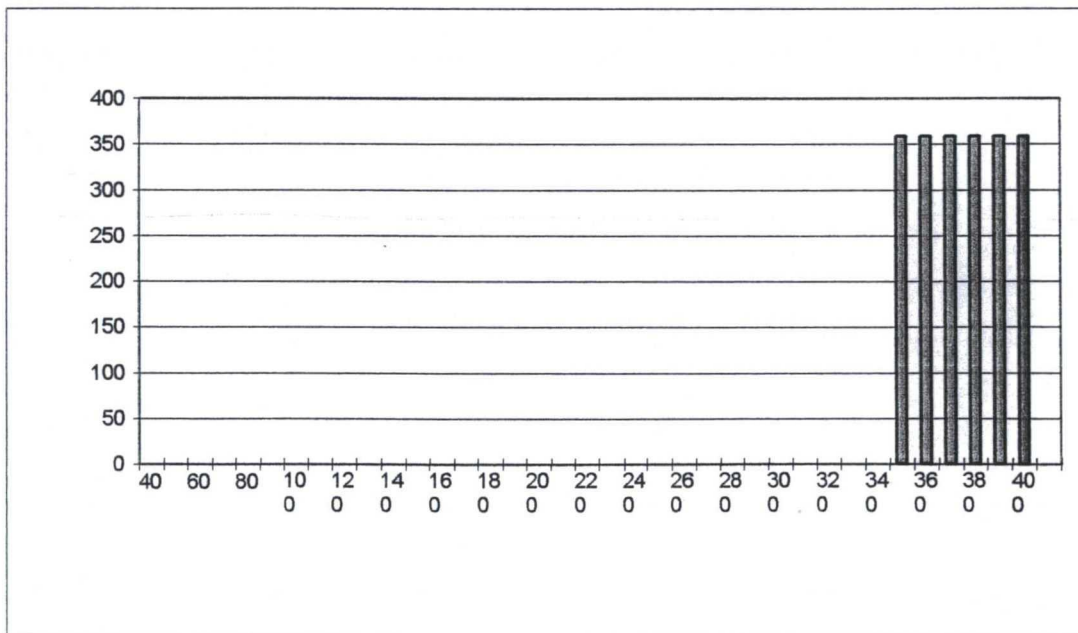
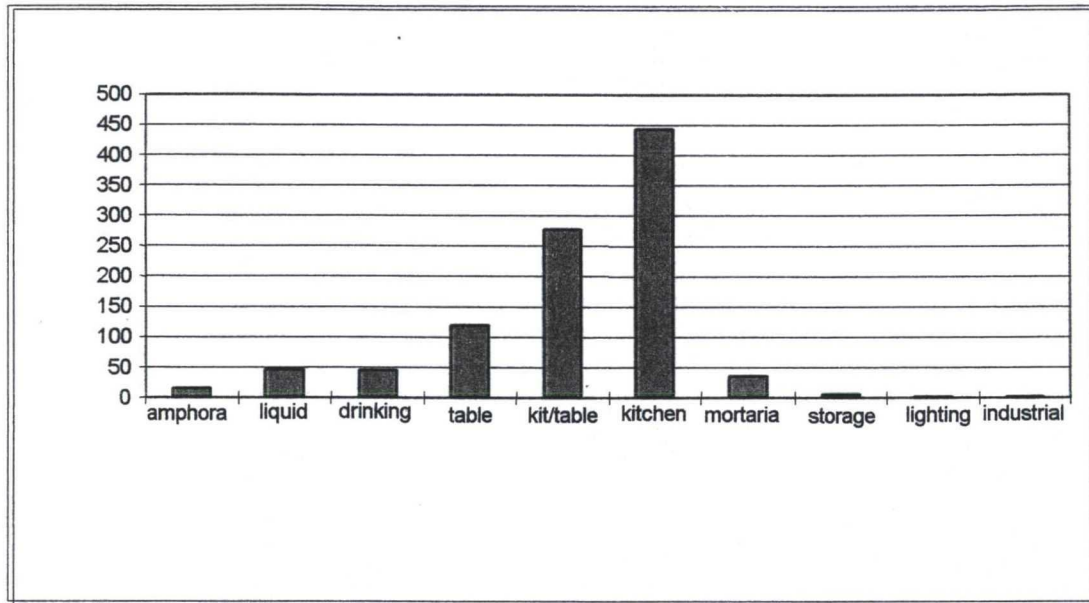


Table 3 - The Roman pottery fabrics from West Lilling as a percentage of sherd count and weight

Fabric	Code	Sherds	%	Grammes	%
Gauloise 4 amphora	GAU4	1	0.10%	56	0.20%
Dressel 20 amphora	DR20	12	1.22%	1876	6.70%
Dressel 23 amphora	DR23?	1	0.10%	19	0.07%
Amphora Total		14	1.42%	1951	6.97%
Black-surfaced ware	BLSF	13	1.32%	329	1.18%
Calcite tempered ware	CALC	326	33.06%	9390	33.52%
Calcite-type ware - minimal	CALM	2	0.20%	32	0.11%
Oxidised calcite tempered ware	CALOX	12	1.22%	377	1.35%
Coarse ware	COAR	3	0.30%	69	0.25%
Hand made grey with coarse quartz	GRQZ	30	3.04%	1291	4.61%
Coarse Total		386	39.14%	11488	41.02%
Black burnished 1	BB1	1	0.10%	22	0.08%
Crambeck grey ware	CRGR	229	23.21%	6614	23.61%
Crambeck grey ware - variant	CRGRV	19	1.93%	434	1.55%
Dales-type ware	DWSH?	1	0.10%	17	0.06%
Grey ware	GREY	169	17.14%	2743	9.79%
Fairly fine grey ware	GRFF	21	2.13%	692	2.47%
Grog-tempered ware	GROG	3	0.30%	56	0.20%
Grey with abundant quartz sand	GRSA	3	0.30%	19	0.07%
Grey 'sandwich' ware	GRSAN	10	1.01%	277	0.99%
Reduced Total		456	46.22%	10874	38.82%
Crambeck mortaria	MOCR	28	2.84%	1101	3.93%
Mancetter-Hartshill mortaria	MOMH	1	0.10%	153	0.55%
North Gaulish mortaria	MONG	1	0.10%	104	0.37%
Nene Valley mortaria	MONV	2	0.20%	144	0.51%
North Yorkshire mortaria	MONY	1	0.10%	117	0.42%
Rhineland mortaria	MORH?	1	0.10%	148	0.53%
Mortaria Total		34	3.44%	1767	6.31%
Crambeck oxidised ware	CROX	4	0.41%	126	0.45%
Crambeck parchment ware	CRPA	10	1.01%	339	1.21%
Oxidised ware	OX	28	2.84%	659	2.35%
Light coloured oxidised ware	OXL	5	0.51%	56	0.20%
Micaceous oxidised ware	OXMIC	1	0.10%	5	0.02%
Hand made oxidised with coarse quartz	OXQZ	3	0.30%	46	0.16%
Oxidised with abundant quartz sand	OXSA	1	0.10%	10	0.04%
White-slipped oxidised ware	OXWS	7	0.71%	63	0.22%
Oxidised Total		45	4.56%	839	2.99%
Nene Valley colour-coated ware	NVCC	23	2.33%	343	1.22%
Oxfordshire colour-coated ware	OXRC	3	0.30%	151	0.54%
Central Gaulish samian	SAMCG	8	0.81%	69	0.25%
East Gaulish samian	SAMEG	2	0.20%	24	0.09%
Fine Total		36	3.64%	587	2.10%
	TOTAL	985	100.00%	27971	100.00%

Table 4 – Function of the Roman pottery from West Lilling by sherd count.



**6.6 TSEP Site 169. Lilling Low Lane, West Lilling, National Grid
Reference SE 640 644. (OSA99EX03)**

List of Table Titles

- 1 Plotdate of the stratified Roman pottery from West Lilling
- 2 Plotdate of the Roman pottery from immediate post-Roman layers at West Lilling
- 3 The Roman pottery fabrics from West Lilling as a percentage of sherd count and weight
- 4 Function of the Roman pottery from West Lilling by sherd count

**6.6 TSEP Site 169. Lilling Low Lane, West Lilling, National Grid
Reference SE 640 644. (OSA99EX03)**

List of Figure Titles

Figure 169.1 Site location.

Figure 169.2 Location of Geophysical anomalies, evaluation trenches and excavation trench.

Figure 169.3 Locations of principle features and of Details 1 and 2.

Figure 169.4 Detail 1, plan of earlier features between 240m and 270m.

Figure 169.5 Detail 2, plan of later features between 240m and 270m.

Figure 169.6 Shears from late Roman ditch fill (3001).

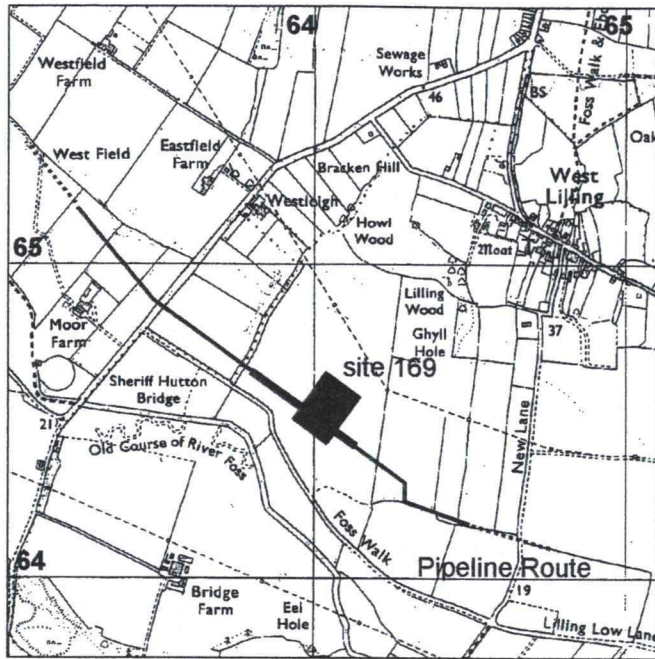








Figure 169.1. Site location.

BP TSEP Project 1998-2000
Site 169



Geophysical Interpretations By GSB.

-  archaeology/?archaeology
-  ferrous
-  ?burnt/fired material
-  ?natural
-  increased magnetic response
-  linear trend

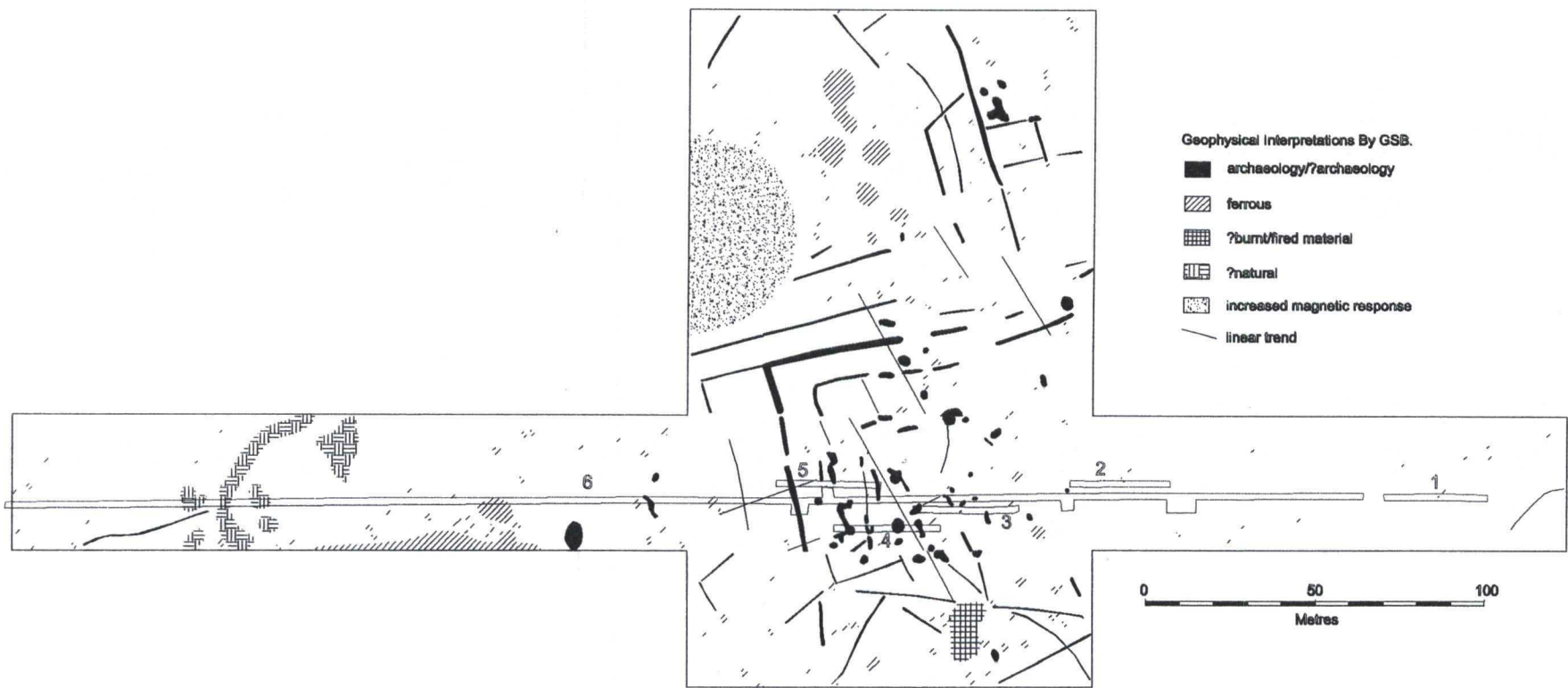


Fig 169.2 Location of geophysical anomalies, evaluation trenches & excavation trench. Scale 1:20.

BP TSEP Project 1998-2000
 Site 169

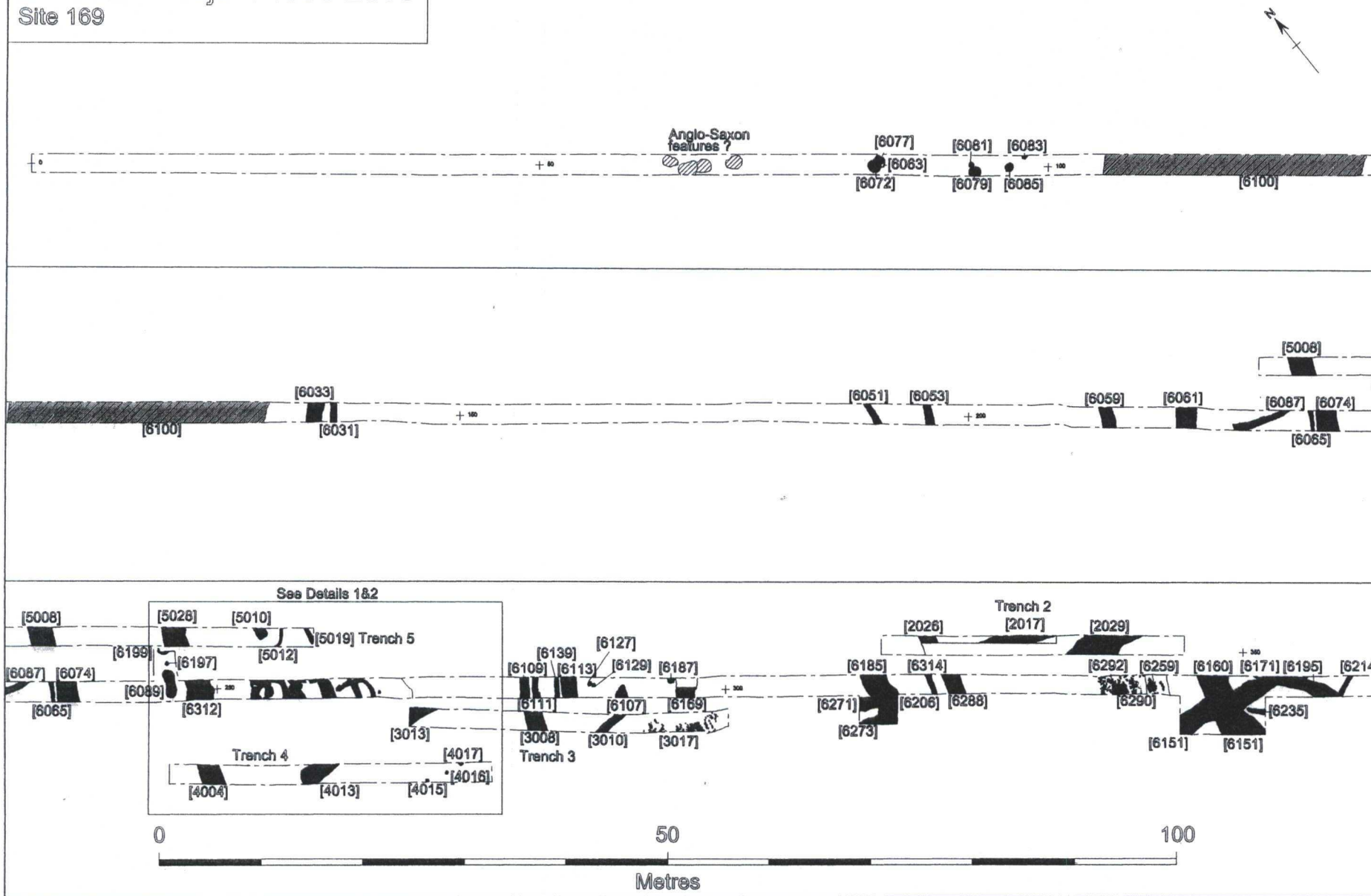
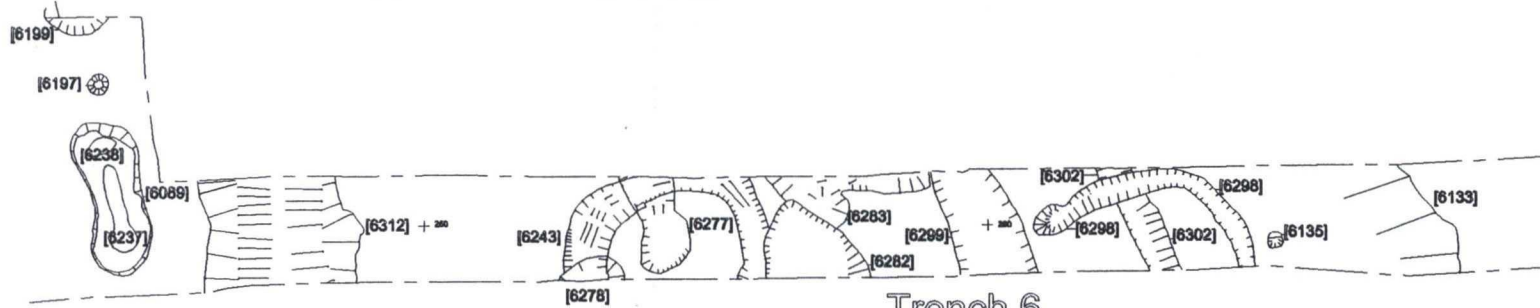


Fig 169.3 Location of principal features and of details 1 and 2.

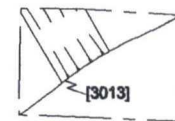
BP TSEP Project 1998-2000
Site 169



Trench 5



Trench 6



Trench 3

Trench 4

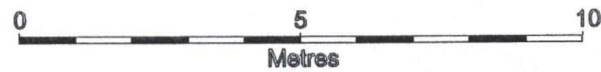
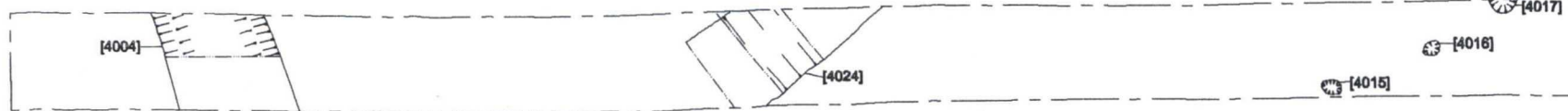
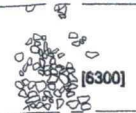
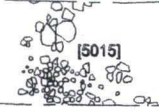


Fig 169.4 Detail 1, plan of earlier features between 240m and 270m.

BP TSEP Project 1998-2000
Site 169



Trench 5

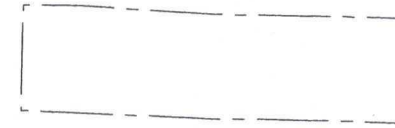


+ 250



+ 280

Trench 6



Trench 3

Trench 4

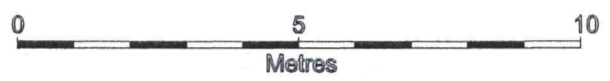
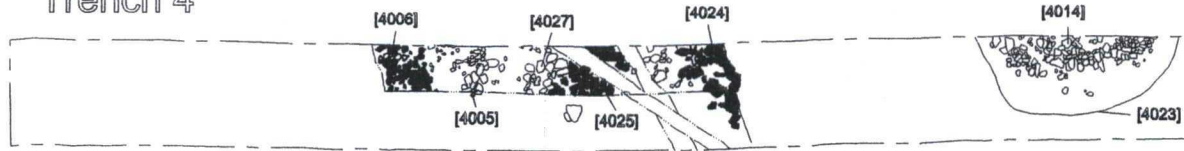


Fig 169.5 Detail 2, plan of later features between 240m and 270m.

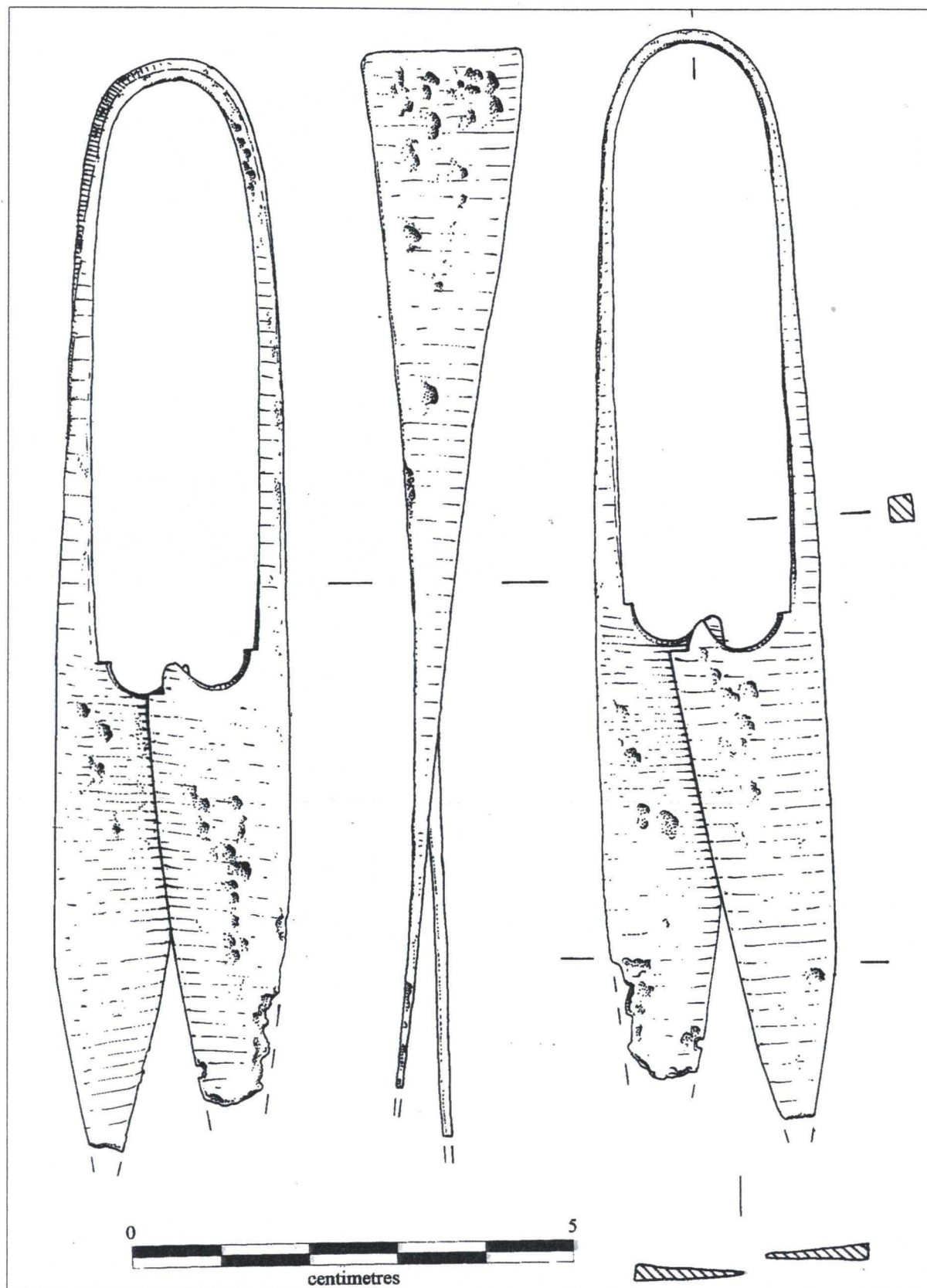


Fig 169.6 Shears from late Roman ditch fill (3001).

BP TSEP Monograph Report – Site 169, Lillings Low Lane

References.

- Bailey, D M, 1997 in Monaghan, Jason, 1997 Roman Pottery from York The Archaeology of York. Volume 16: The Pottery AY 16/8. C.B.A. York. (929-30)
- Betts I M, 1985. A Scientific investigation of the brick and tile industry of York to the mid-eighteenth century. Bradford University (unpublished PhD thesis)
- Betts I M & Crowley N, 1996 'Building materials' in Milne G & Wardle A 'Early Roman Development at Leadenhall Court, London and related research' London & Middlesex Archaeological Society Volume 44 (1993), 53-59
- Bidwell, P. and Croom, A.T., 1997 The pottery, in Wenham and Heywood, 1997, 61-106.
- Brigstock, R.J., 2000 The Coins, in P. Ottaway, Excavations on the Site of the Roman Signal Station at Carr Naze, Filey, 1993-94, Archaeol. J, 157, 131-140.
- Brodribb G, 1987. Roman brick and tile. Alan Sutton
- Callender, M.H., 1965 Roman Amphorae, Oxford.
- Corder, P., 1950 The pottery made at the kilns, in R.H. Hayes and Sir Edward Whitley, The Roman pottery at Norton, East Yorkshire, Roman Malton and District Report 7.
- Corder, P. and Birley, M., 1937 A pair of fourth-century Romano-British pottery kilns near Crambeck; with a note on the distribution of Crambeck ware, Antiq J 17, 392-413; reprinted in Wilson, P.R. (ed), Crambeck Roman Pottery Industry (Leeds 1989).
- Cowgill, J, de Neergaard, M & Griffiths, N., 1987 *Knives and Scabbards Medieval Finds from Excavations in London*. HMSO
- Crowley N, 1995. 'Building Material' in Cowan, C 'A possible mansion in Roman Southwark: Excavations at 15-23 Southwark Street 1980-86' London and Middlesex Archaeological Society Transactions, Volume 43, (1992) 144-164
- Darling, M.J. (ed.) 1994. Guidelines for the Archiving of Roman Pottery, The Study Group for Roman Pottery.
- Darling M J and Precious B J, forthcoming The Roman Pottery in Powlesland et al, forthcoming The Anglian and Roman Settlement at West Heslerton.
- Evans, J., 1996 The Roman Pottery, in David S. Neal, Excavations on the Roman Villa at Beadlam, Yorkshire, Yorkshire Archaeol. Soc. Report 2, 69-93 (Leeds).
- Frere, S.S. & St. Joseph, J.K.S., 1983. Roman Britain from the Air. (CUP).
- Geophysical Surveys of Bradford, 1998af, 'Teesside to Saltend Ethylene Pipeline, BP Site 169', unpublished report no. 98/125, November 1998
- Gillam, J.P., 1957 "Types of Roman coarse pottery vessels in Northern Britain", Archaeol Aeliana, 4 ser, 35, 180-251.
- Hall, A., Jaques, D., Rowland, S., Kenward, H. and Carrott, J. 2001. Technical report: Biological remains from excavations at a site near West Lilling, North Yorkshire (site codes: OSA99EX03 and BPTSEP169). Reports from the Environmental Archaeology Unit, York 2002/1, 34 pp.
- Hall, A. R., Kenward, H. K. and McComish, J. M. (in prep.). Pattern in thinly distributed plant and invertebrate macrofossils revealed by extensive analysis of occupation deposits at Low Fisher Gate, Doncaster, U.K.
- Hartley, K F, 1985 Mortaria, in Wilmott, T, & Rhatz, S P Q, An Iron Age and Roman Settlement outside Kentchester (Magnis), Herefordshire. Excavations 1977 – 1979, Trans Woolhope Naturalists' Field Club, 45, 142-5

- Hartley, K F, 1997 in Monaghan, Jason., 1997 Roman Pottery from York The Archaeology of York. Volume 16: The Pottery AY 16/8. C.B.A. York. (937-9)
- Jaques, D., Hall, A., Rowland, S., Kenward, H., and Carrott, J. 2000b. Evaluation of biological remains from excavations at Bolton Hall, Bolton (site code: TSEP 238). Reports from the Environmental Archaeology Unit, York 2000/66, 7 pp.
- Jaques, D., Kenward, H. and Johnstone, C. 2000a. Assessment of biological remains from excavations at Hayton, East Riding of Yorkshire (site code KINCM1995.1020). Reports from the Environmental Archaeology Unit, York 2000/35, 7 pp.
- Kenward, H. K. 1992. Rapid recording of archaeological insect remains - a reconsideration. *Circaea*, the Journal of the Association for Environmental Archaeology 9 (for 1991), 81-8.
- Kenward, H. K., Engleman, C., Robertson, A. and Large, F. 1986. Rapid scanning of urban archaeological deposits for insect remains. *Circaea* 3, 163-172.
- Kenward, H. K., Hall, A. R. and Jones, A. K. G. 1980. A tested set of techniques for the extraction of plant and animal microfossils from waterlogged archaeological deposits. *Science and Archaeology* 22, 3-15.
- Kloet, G. S. and Hincks, W. D. 1964-77. A check list of British Insects. (2nd ed.) London: Royal Entomological Society.
- Miles, D., 1982. Confusion in the Countryside: Some comments from the Upper Thames Region. In: *British Archaeological Reports (British Series) 103 (I). The Romano-British Countryside. Studies in Rural Settlement and Economy* D. Miles (ed).
- Monaghan, Jason., 1997 Roman Pottery from York The Archaeology of York. Volume 16: The Pottery AY 16/8. C.B.A. York.
- Monaghan, J, 2000 The pottery, in P. Ottaway, Excavations on the Site of the Roman Signal Station at Carr Naze, Filey, 1993-94, *Archaeol. J.*, 157, 140-147.
- Morris, P. 1979. Agricultural Buildings in Roman Britain. *British Archaeological Reports (British Series) 70*.
- On Site Archaeology, 1999f, 'BPTSEP 169: West Lilling. An Archaeological Evaluation', unpublished report OSA 99EV02, July 1999
- On Site Archaeology, 2000d, 'BPTSEP 169: West Lilling. An Archaeological Evaluation & Excavation Assessment Report', unpublished report OSA 99EVO02/99EX03, December 2000
- Ottaway, P, 2000 Excavations on the Site of the Roman Signal Station at Carr Naze, Filey, 1993-94, *Archaeol. J.*, 157, 79-199.
- Rahtz, P., Hayfield C. and Bateman, J. 1986. Two Roman Villas at Wharram Le Street. York University Archaeological Publications 2.
- Smith, A. J. E. 1978. The moss flora of Britain and Ireland. Cambridge: University Press.
- Stoertz, C. 1997. Ancient Landscapes of the Yorkshire Wolds. RCHME
- Swan, V.G., Jones, B.E.A. and Grady, D. 1993. Bolesford, North Riding of Yorkshire: a Lost Wapentake Centre and its Landscape. In: *Landscape History*. Vol. 15. (1993)
- Tutin, T. G. et al. 1964-80. *Flora Europaea* 1-5. Cambridge: University Press.
- von den Driesch, A. 1976. A guide to the measurement of animal bones from archaeological sites. Peabody Museum Bulletin 1, Cambridge Mass., Harvard University.
- Ward C, 1999. 'The Roman ceramic & stone building materials 1979-1998' Iron Age and Roman Piddington 4, Upper Nene Valley Archaeological Society
- Wenham, L. Peter, and Heywood, Brenda, 1997. The 1968 to 1970 excavations in the vicus at Malton, North Yorkshire. Yorkshire Archaeological report. No. 3. Leeds 1997