
# Archaeological Investigations at the Puma Power Plant, Ash, Kent

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# Archaeological Investigations at the Puma Power Plant, Ash, Kent

By Bruce Watson, with contributions by Ian Betts, Jackie Keily, Charlotte Thompson, Alan Pipe and Lucy Whittingham.

## Abstract

*The natural geology of the site consisted of truncated Thanet Beds, overlain by Holocene brickearth. Two areas of activity were excavated. In the north of the site, close to the Sandwich Road frontage, the earliest feature was a pit of possible late Bronze or Iron Age date. During the early Roman period a series of inter-cutting, east-west, parallel ditches were dug across this part of the site. These are interpreted as the southern boundary of an enclosed agrarian settlement, probably a single farmstead, which extended further north under the Sandwich Road. Other features, including gullies, pits and post-pits provided evidence for one robbed out timber building and associated occupation. A second cluster of features in the western part of the site, consisted of two phases of linear ditches, probably stock pens. The earlier phase of ditches is undated, but the later one is of Roman date. The duration of Roman activity probably spanned from the 1st century until the 3rd century AD.*

*All the Roman features were sealed by a thick accumulation of post-medieval hillwash and there was no archaeological evidence for the reoccupation until 1780 when the new Ash Workhouse was built along the Sandwich Road frontage. In 1836 the workhouse was converted into a brewery by John Bushel. In 1840 he sold the premises to William Gardner, who established Gardner's Brewery, which occupied the central portion of the site until 1968. Excavated remains of the brewery included brick-built cellars, a large circular brick-lined well and a robbed out brick-lined well of 18th or early 19th century date. In 1968 the site became an industrial premises which was latterly known as the Puma Power Plant*

*Post-medieval features of note included a land drain lined with cattle horn cores, and a saddleback ceramic land drain of late 18th or early 19th century date.*

## Introduction

The Puma Power Plant site was situated on Sandwich Road in the village of Ash (NGR 629285 158345) in east Kent (Fig 1). The site takes it name from Puma Power Ltd (formerly Grahame Puttick Ltd), a manufacturer of diesel-electric generators, who were the most recent occupiers of the site (from 1968 until 2003). The site had previously been occupied by a brewery (from 1836) and the Ash Workhouse (from 1780). Parts of the brewery, including two staff houses, a bottling house and pump/well house, were still standing in 2003 (Lowe 2003).

The archaeological work (Fig 2) was carried out in three phases. The first phase, during February and March 2003, consisted of the investigation of twelve evaluation trenches (1–9 and 11–13)[1] and five test pits (TP1–5) (Corcoran and Watson 2003). On the basis of the results of the evaluation, archaeological excavation of two open areas was undertaken during

May and June 2003 (trenches 2 and 12). Finally, during October 2003 and March 2004, a watching brief was carried out to record archaeological features revealed during ground works and the installation of new services along the Sandwich Road frontage. In 2003 all the standing buildings of the former brewery were surveyed by Jon Lowe of CgMs Consulting in advance of the demolition of most of them and the conversion of the remaining ones into residential accommodation (Lowe 2003).

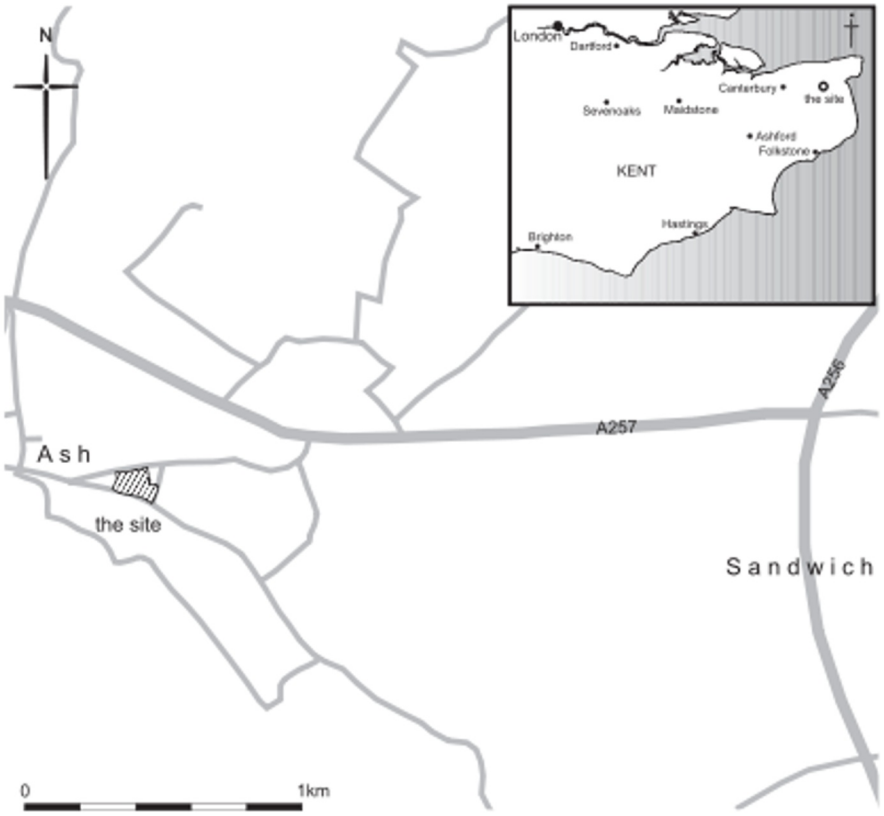


Fig 1 Site location plans

The archaeological sequence was excavated on a single context system. During the assessment (Watson 2004b) and analysis of the archaeological work, a hierarchy of larger units was employed to describe the activity on the site. Contexts are arranged into subgroups and groups. A group (G) will describe either a coherent feature (or an associated set of features) or sequence of deposits. Groups are then interpreted in terms of land use and period (Watson 2004a) (Fig 3). A land use is an entity such as a Building (B) or Open Area (OA).

All stratigraphic and specialist data were recorded using standard MoLA procedures and subsequently entered into an Oracle database. This database, housed in the LAARC, is the medium through which the finds, environmental and field records may be interrogated. When referred to within this report, accessioned finds are denoted <1> etc.

More detailed coverage of aspects of the site can be found in the specialist archive reports listed in the bibliography. These reports and the remainder of the site archive (site code KT-PPS03) remain with MoLA awaiting deposition with the appropriate local repository.

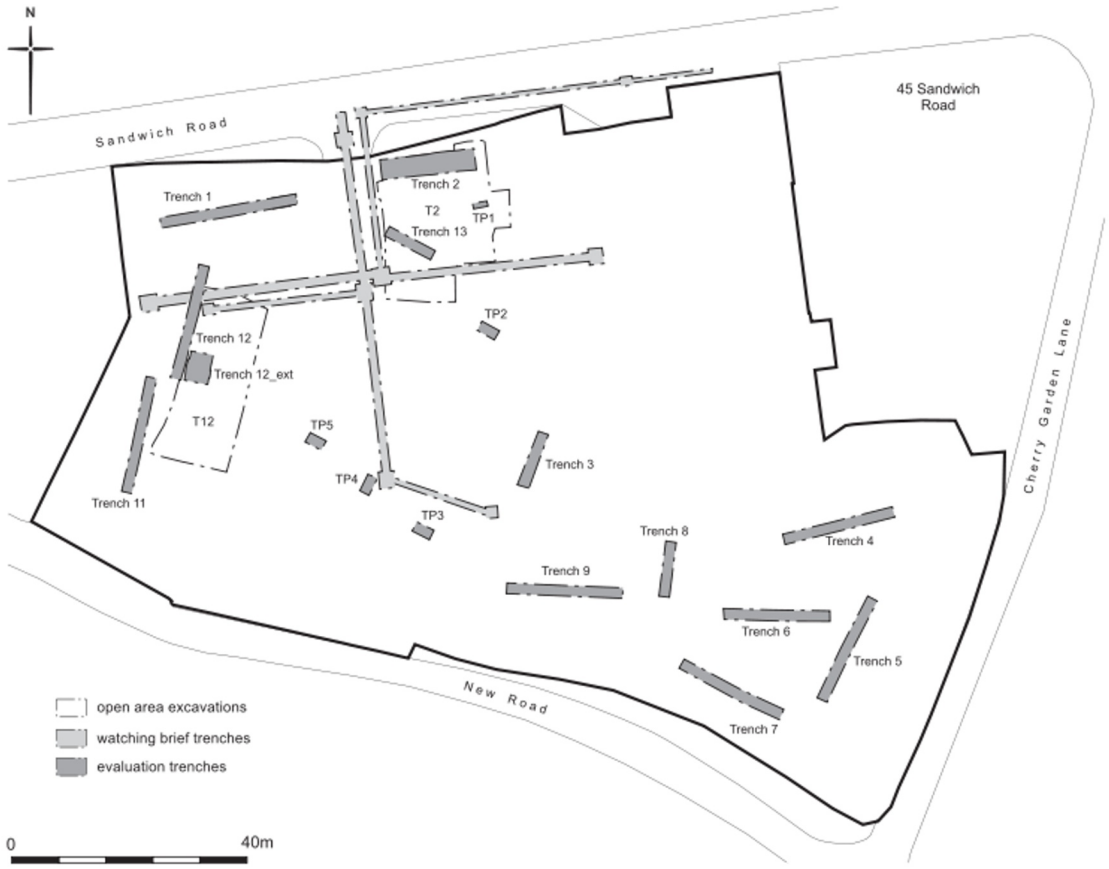


Fig 2 The site, showing the location of all areas of archaeological intervention

## Natural geology: period 1

### *Natural topography*

The village of Ash is located on a low, undulating north-west to south-east trending ridge, which rises to about 30m OD (metres over Ordnance Datum), south-east of the site. The underlying geology of the site is Thanet Beds (Shepherd-Thorn 1988). As a result of the accumulation of hillwash during the post-Roman period the topography of the lower portion of the site has been considerably altered (period 5). The ground level on site varied considerably, it was highest in the south-east corner, 26.1m OD, and sloped down to the north and the west, lying at 19.65m OD along the Sandwich Road frontage.

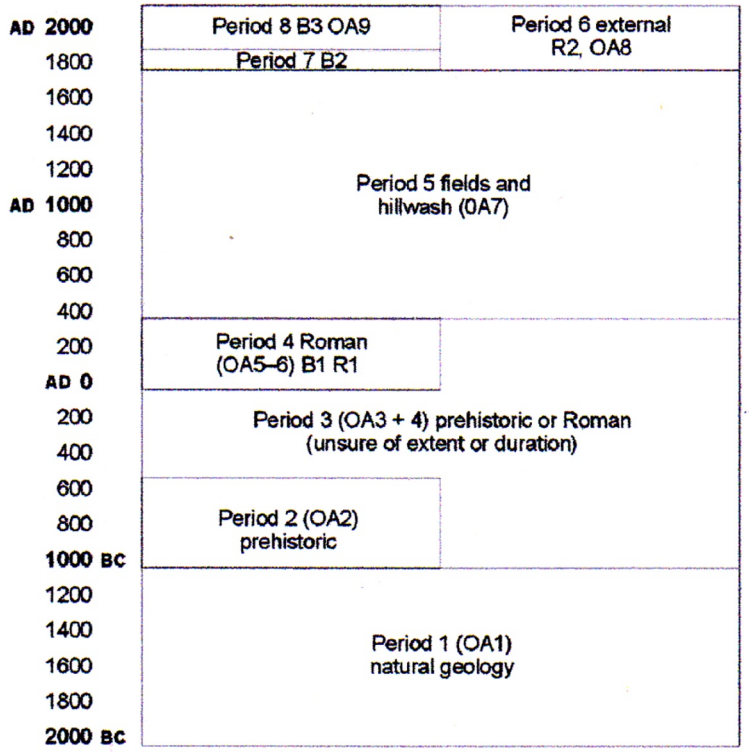


Fig 3 Landuse diagram, showing the chronology of site activity

## Open Area 1: the Thanet Beds and Holocene brickearth:

The top portion of the truncated Thanet Beds was exposed in various trenches. They consisted of free-draining, pale greenish grey or yellowish-brown, fine and medium grained sands, discoloured by iron mineral staining (G1) During the Quaternary before the deposition of the overlying Holocene brickearth, the Thanet Beds suffered from erosion and truncation. The brickearth was partly derived from loess (windblown silt) originally deposited in periglacial conditions during the Pleistocene (G2). It consisted of a layer (over 0.30m thick, top 21.28m OD) of orange-brown sediment. Its texture varied from a stone-free slightly clayey silt, to a slightly clayey fine sandy silt or a pale yellow fine sandy clay. These textual variations imply that these deposits have a complex history of post-depositional movement.

In trench 3 an east-west aligned, Holocene palaeochannel was located (G3). As no dating evidence was recovered from its waterlain sediments more precise dating is not possible.

### *Period 1 discussion*

The site lies at the southern edge of the Ash Level, a wide expanse of low-lying reclaimed marshland that extends across the former Wantsum Strait, which once separated the Isle of Thanet from the mainland of Kent (Bridgeland et al 1998). The village of Ash is located on a low ridge, which forms part of the dip slope of the North Downs. Therefore in topographical and geological terms the site can be seen as a convenient, flood-free location at the foot of the North Downs, for people to settle, who wished to exploit both environments. The wetlands (the northern part of the parish) could have been used for fishing, wild fowling, and seasonal

grazing, while the dip slope of the downs (the southern part of the parish including the site), could have provided timber, and land for mixed farming.

The soils which have developed on the natural sands and brickearth have remained good agricultural land into modern times (Shephard-Thorn 1988, 1). Intensive agriculture together with a combination of free draining, sandy soils and steep natural slopes is likely to have triggered soil erosion locally (see period 5).

## Prehistoric activity: period 2

### *Open area 2: external activity*

An oval rubbish pit (G4) (Fig 4), backfilled with mottled brickearth, contained one sherd of flint-tempered pottery, which is dated to the late Bronze Age or early Iron Age (c 1000–500 BC). The other finds from this pit consisted of 74 eroded unidentifiable mammal bone fragments and a single, battered human tooth crown (Pipe 2004). The plant remains from this feature included a single grain of spelt or free-threshing wheat (*Triticum spelta/aestivum*) (Davis 2004). Spelt wheat is found sporadically from Bronze Age sites, and was the most widely used variety of wheat during the Iron Age (Greig 1991).

### Period 2 discussion

This rubbish pit is the only feature that can be securely identified as prehistoric. However, there are a number of other features on site which may be of prehistoric date (see period 3). The rubbish pit implies the existence of late Bronze Age or early Iron Age settlement nearby, perhaps situated to the north of the Sandwich Road.

Two residual sherds of prehistoric pottery and five worked flints of late Neolithic or Bronze Age date (c 2500–500 BC) date were also recovered from Roman contexts. The flints consisted of a scraper/borer with the remainder waste flakes and a large keeled core (Grey 2004). The flint work may be the result of intermittent human activity on site, rather than actual settlement. Residual Mesolithic, Neolithic and Bronze Age flint work has also been found locally at Mill Field (Dover Archaeological Group 1993) and at Each End (Hicks 1998, 94).

## Features of Prehistoric or Roman date: period 3

### *Open area 3: ditched fields*

A series of three shallow ditches were aligned north-west to south-east or north-east to south-west (G5). These ditches are interpreted as part of the same overall feature, perhaps the corner of a field (Fig 4).

Another field was represented by a length of north-west to south-east aligned ditch (G6). A terminal at its eastern end may mark the position of an entrance. Driven into the sides of the ditch were eight stakeholes and one posthole. The presence of various stakes and posts following the line of the ditch suggests that it was fenced and therefore may have been a

paddock, intended to hold livestock. Nearby were two clusters of stakeholes. Three short lengths of field ditches represent fragments of another field (G7).

In isolated areas of trench 12 there was a truncated subsoil horizon above natural brickearth, up to 0.33m thick (top 19.68m OD); it consisted of a mottled light and mid greyish-brown, silty fine sand. The texture suggests that this soil was largely derived from the Thanet Beds, so it might be partly the result of an early phase of hillwash (G8). Similar subsoil horizons elsewhere are dated to the post-medieval period (see period 6).

Trench 2 contained various, scattered fragments of ditches, a possible robbed out beam slot, robbed out postholes, stakeholes and two oval shaped pits. The pits had apparently contained two closely-spaced, robbed out, vertical posts and four stakeholes (G9). Included in this group are a number of undated pits and ditches recorded during the watching brief (Fig 4).

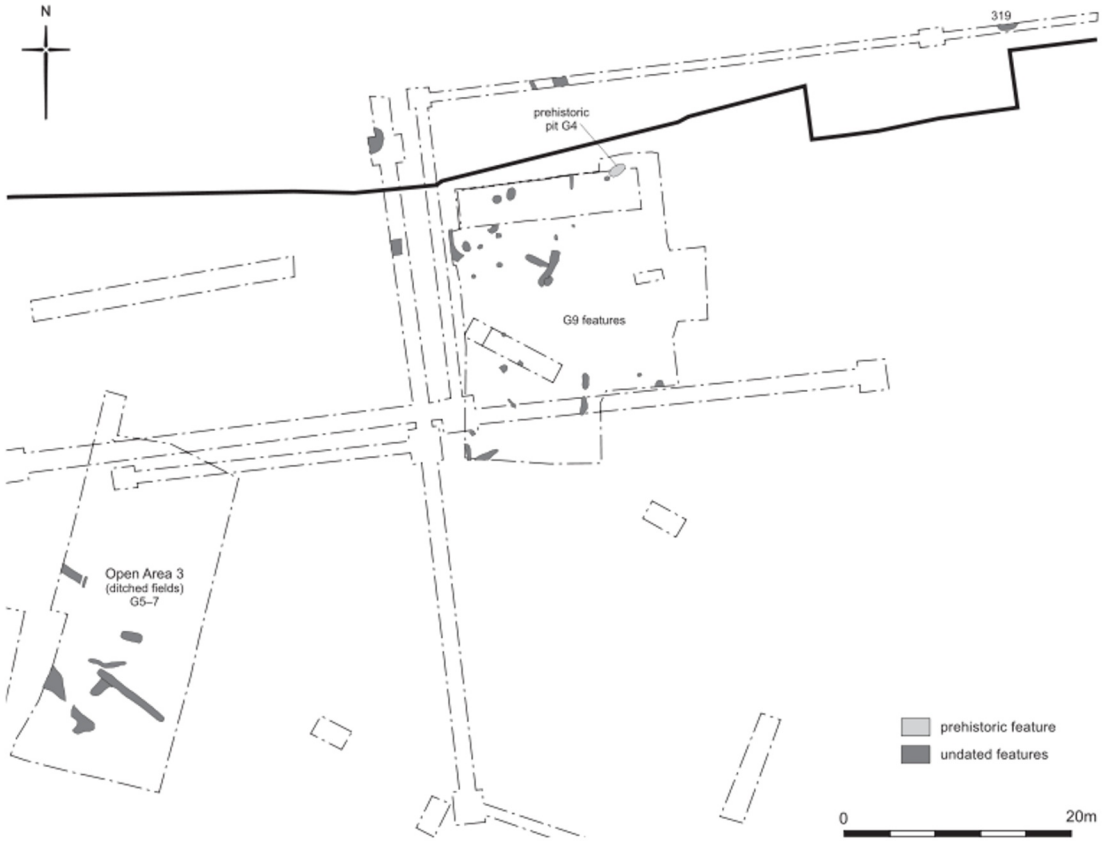


Fig 4  Prehistoric and undated features (periods 2 and 3)

### *Period 3 discussion*

Period 3 includes a number of features which are defined as undated, as their excavation produced no datable finds and they lack stratigraphic relationships with other dated features. These features generally were backfilled with sandy silts, interpreted as erosion material (Fig 4). The vast majority of these features were sealed by hillwash (period 5).

The features included various rubbish pits, robbed out postholes, stakeholes and post pits. Two oval shaped pits had apparently contained multiple post settings (G9). The various short lengths of ditch are interpreted as part of a prehistoric or Roman system of fields or paddocks (G5–7). This field system was superseded by another one of Roman date (G14).

## Roman settlement: period 4

### *Open Area 4: Roman ditched enclosure*

A series of five east-west aligned, linear ditches were successively replaced or recut (Fig 5). These features are interpreted as enclosure ditches delineating the southern extent of the settled area, from the fields to the south. One of the ditches has a terminal at its eastern end which may mark the position of an entrance (G10). Included within this group are two oval pits of unknown function and a short length of shallow ditch or robbed out beamslot. Most of these features were infilled before AD 250, but the latest pottery spot date of AD 270–400, shows that these features were still in use during the late 3rd century.

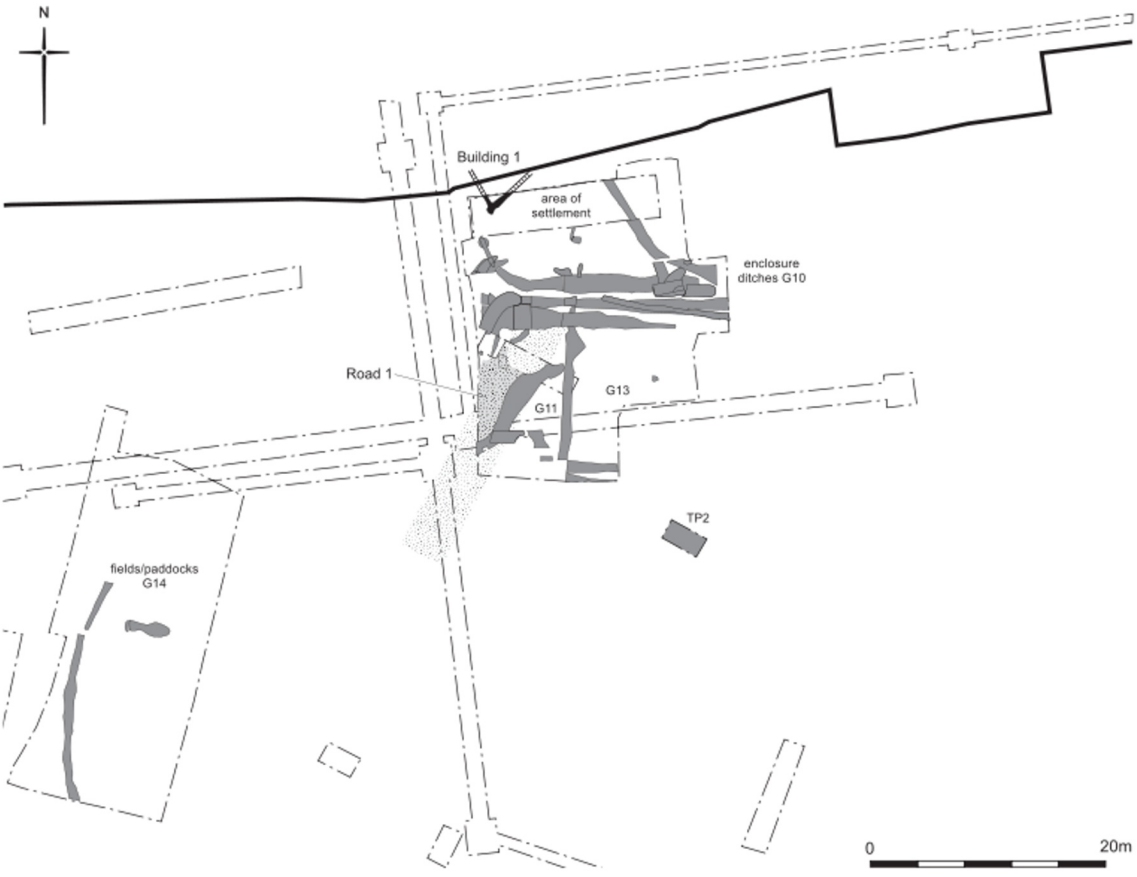


Fig 5  Roman features (period 4)

### *Open Area 5, Building 1 and Road 1: settlement evidence within the OA 4 enclosure*

Two north-east to south-west aligned ditches were separated by an area of gravel metalling, interpreted as a roadway (Road 1) connecting the fields and the settlement (G11) (Fig 5). These features are interpreted as activity connected with a probable entrance into the settlement to the north of the linear ditches, marked by a series of curving enclosure ditch segments. Pottery spot dates confirm that these features were in use before AD 100 and until after AD 240.

A timber building and other features lay to the north of the linear ditches. One ditch had been infilled with finds rich in domestic rubbish (G12). The associated pottery is dated to AD 270–300 and there was a copper coin of AD 260–290, possibly of Carausius (AD 286–93). This ditch contained the largest assemblage of animal bone recovered from any Roman feature on site, totalling 1.9 kg, or 310 fragments, derived almost entirely from ox and 'ox-sized' mammals. The majority of this group, 250 fragments, consisted of unidentifiable pieces of smashed longbone midshaft. Ox was represented by elements of the skull, rib, upper hind leg (innominate and femur), upper foreleg (humerus) lower foreleg (radius and carpal), upper hind leg (femur), lower foreleg (tibia, astragalus, calcaneum and tarsal) and hind foot (tarsal and metatarsal). All epiphyses were fully fused indicating that the animal(s) were adult. Other species were represented by a single example of burnt adult pig (Sus scrofa) limb bone and a horse (Equus caballus) tooth. Evidence of both charring and calcination was seen on many fragments, indicating a range of combustion temperatures between 400–900 degrees Celsius (Lyman 1994, 386). The bones may have been smashed into small fragments before being boiled up for grease extraction and then the waste material burnt, possibly as fuel for heating up the next batch of bones (Pipe 2004).

Associated charred plant remains consisted of small quantities of charred cereal grains, chaff and weed seeds. The cereal component of both consisted mainly of wheat, with only one grain identified as spelt. Wheat chaff took the form of a single spikelet base and a rachis node. One oat grain and several fragments of oat awn were also present. Weed seeds came from stinking mayweed, sedge (*Carex sp*.), brome and wild grasses (Davis 2004).

In the north-west part of trench 2, one corner of a timber building was discovered (Building 1) (Fig 5). The south-west corner of this building was marked by a robbed out posthole. Two linear slots aligned at right angles to each other are interpreted as the voids left by the removal of sill beams. This was the only building found on the site and it was constructed before AD 180. Finds from the backfill of the robbed out timbers included pottery dating to AD 180–300, an iron tripod candle holder (described later) and fragments of lava quern stone, almost certainly from a rotary quern stone imported from the continent, probably from the Eifel Hills of Germany. A length of beam slot may be evidence of a second building. A nearby pit with internal scorching had no obvious function.

Activity to the south of the linear ditches (G10) was represented by scattered small segmental ditches, rubbish pits and external dumping of brickearth and Thanet Sands (G13). Structural

evidence was represented by robbed out postholes. Associated pottery ranges in date from AD 50–100 to 120–400. A number of undated features within this area may be of Roman date (G9).

### *Open Area 6: Roman field ditches*

Elements of a ditched system of rectangular fields dated to AD 50–100 and AD 50–400, were located in trench 12 to south-west of the settlement (G14) (Fig 5).

### *The Roman building materials from period 4*

*Ian M. Betts*

A total of 53 fragments of building material was recovered from the site. The majority of the building material comprises small fragments of roof tile, brick and daub from G10–14. Four fragments of fairly fine, light brown coloured daub, some with signs of burning, was found associated with the robbing of Building 1. The presence of roof tile suggests that Building 1 may have been tiled, although the combed box-flue tile found in Road 1 was imported from elsewhere.

The tile found on the site derives from at least four different production sources, only one of which can be identified with any certainty, this is the cream coloured tegula in fabric 2454. This fabric was produced from the 1st century AD onward at Eccles, Kent. Another example of this fabric was also found at Each End (Harrison 1998, 151). The other tiles, which are all various shades of red and orange, comprise tiles in a silty fabric (MoL fabric type 3018), tiles with various quantities of quartz (MoL fabric group 2815, individual types 2452, 3006) and tiles with a very fine sandy clay matrix and fine moulding sand (MoL fabric 2459A and 2459B). The origin of the silty tiles is uncertain but the tiles in fabric group 2815 may have been derived from the Whitehall Gardens and St Stephen's Road tile kilns at Canterbury. Both kilns were in operation during the 2nd century, the Whitehall Gardens kiln being dated to AD 130–140 (McWhirr 1979, 152–6). The tiles in fabric 2459A are found in the London area as well as north Kent and south Essex. These tiles were being manufactured by AD 140 and their distribution suggests they may have been made in either north-east London or west Essex (Betts 2004). Excavation of a farmstead nearby at Each End revealed a similar assemblage of roof tile, brick and flue tile fragments (Harrison 1998).

### *The Roman pottery from period 4*

*Charlotte Thompson*

A total of 144 Roman sherds weighing a total of 2.54kg was recovered from the site. The condition of the Roman pottery is generally poor, and is dominated by unsourced sand-tempered ware (SAND), and unsourced grog-tempered ware (GROG) sherds, which are possibly from Canterbury or a local source. Pottery from the backfill of the ditch in G12, is the largest of all contexts. It contained a handmade (GROG) everted-rimmed jar (Fig 6) and a complete profile of a wheelmade squat jar/wide-mouth deep bowl in SAND (Fig 6). Everted-rimmed jars in a grog-tempered fabric are typical in east Kent in the conquest period (Pollard 1988, 39) and also in the Hadrianic/Severan period (c 120–220 AD) (ibid, 93). Although similar

vessels continue to be made into the 4th century, the fabric and form are unlikely to be Late Roman grog-tempered ware identified by Pollard (1995).

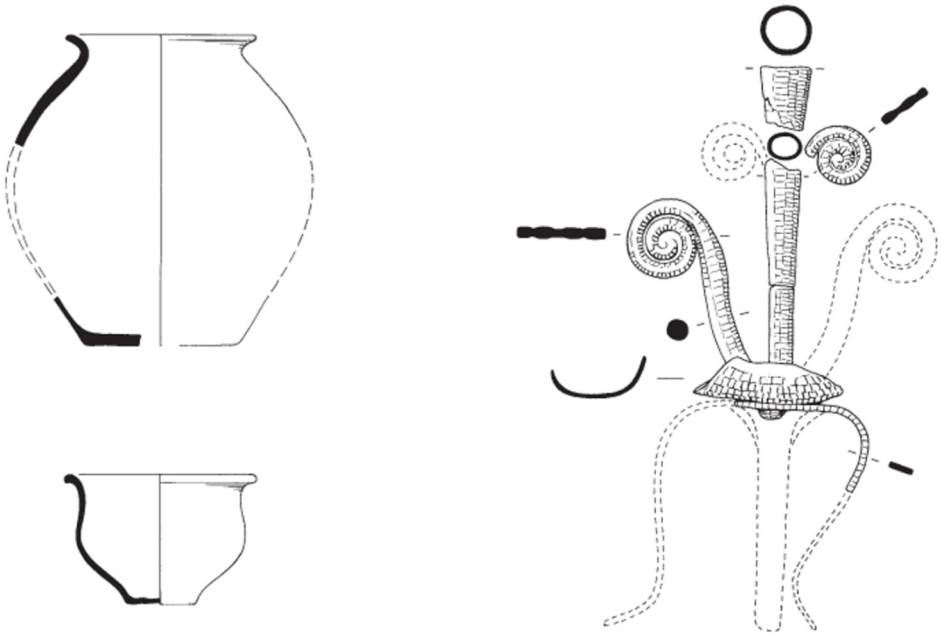

Fig 6  Roman pottery and finds

(top) everted-rimmed jar in an unsourced grog-tempered ware (1:4), (bottom) squat jar/wide-mouth deep bowl in an unsourced sand-tempered ware (1:4), (right)  the iron tripod candlestick (1:2)

Some of the SAND sherds have a red tinge to them, which could be a post-depositional feature, but may also indicate that they are Thameside Kent ware (TSK), a type of black-burnished ware. If these sherds are TSK, then the presence of these and the other black-burnished wares fits the pattern of an expansion in the black-burnished ware market in the last quarter of the 2nd century, seen at other sites in east Kent (Pollard 1988, 93–4). Sherds from the same beaker with rouletted decoration made in an unsourced colour-coated ware (CC) were found in G12, G13 and G15.

The assemblage contains pottery dating from the 1st to the 3rd century AD, and contains a range of locally produced sherds such as black-burnished wares, Patchgrove grog-tempered ware (PATCH) and north Kent grey ware (NKGW), regionally traded wares such as Oxfordshire red/brown colour-coated ware (OXRC) and Oxfordshire white ware (OXWW), as well as la Graufesenque samian (SAMLG) and Baetican early Dressel 20/Haltern 70 fabric sherds (BAETE) imported from the continent. Two Dressel 20 amphorae at the nearby farmstead at Each End were reused as cremation urns (Savage 1998, 144–47). The other pottery from Each End principally consisted of grog tempered coarse ware storage jars and sand tempered jars. The commonest fine ware at Each End was grey Upchurch-type ware and samian was the most abundant imported fine ware (Savage 1998, 148–49). Pottery from the nearby Roman villa at Minster-in Thanet is still being analysed. However, it is evident that the 11,000 sherds from this

site date from the late 1st to mid 3rd century AD, and includes black-burnished wares, material from the Oxford industry, as well as more locally produced wares (Perkins 2004), similar to the material found at Puma Power Plant. Another nearby Roman villa, at Wingham, produced 'coarse black pottery apparently belonging to culinary vessels' which could well be black-burnished ware (Dowker 1882; Dowker 1883, 355).

Further afield in Kent, but comprehensively excavated, the Roman villa at Lullingstone produced a similar range of fabrics to those from Puma Power Plant: Oxford industry wares, Patchgrove grog-tempered ware (PATCH) black-burnished wares as well as samian and other continental imports. This also has a parallel in form, if not in decoration, for the bowl in G12 as the squat jar/wide-mouth deep bowl can be paralleled to category IV C.2 (Meates 1987, fig 70 no. 79). The dating for such vessels at Lullingstone is not certain, although a late 1st century date is suggested for the undecorated versions (ibid, 226).

### *The Iron tripod candlestick*

*Jackie Keily*

The most interesting Roman object from the site is the remains of an iron tripod candlestick found in the backfill of the robbed out remains of Building 1 (G12), dated to AD 180–300.[2] It stands almost 140mm in height and consists of a long conical socket on a circular drip-tray, with only one of the three curving legs remaining. The whole is further embellished with a curling terminal to either side of the socket (Fig 6).

Tripod candlesticks occur in a variety of forms (Eckardt 2002, 251–4) but those with curling or volute terminals appear to be relatively rare. A more elaborate example than the present one comes from the military site of Bainbridge, North Yorkshire (Eckardt 2002, 253, fig 118, no. 1471). An example from Uley, Gloucestershire (now in the British Museum) also has curling, volute terminals (Henig 1993, 201–3 and fig 149, no.1); the Uley site also produced the remains of an undecorated tripod candlestick and part of a possible third with volute decoration (ibid, 201, fig 149, no. 2 and 207, fig 153, no. 26). In addition, Eckardt mentions a fragment with curled terminals from Lydney park, Gloucestershire (2002, 254).

Tripod candlesticks are most common in the 3rd and 4th centuries and are particularly common in the south-west and the south-east (Eckardt 2002, 146 and 254), often found associated with sanctuaries and shrines (Henig 1993, 201–3; Eckardt 2002, 144–47 and 254). Overall candlesticks are most common on rural sites and smaller towns, although they do also occur in military (as at Bainbridge) and urban centres (Eckardt 2002, 144–47). As part of their work on the ritual site of Uley in Gloucestershire, Woodward and Leach considered the finds evidence from seven temple sites, mainly in the west of England but including Harlow, Essex, as well as two Cotswold domestic sites (1993, 332). Neither of the domestic sites produced candlesticks, whereas five of the seven temple sites produced between one and three examples.

The only example listed by Eckardt of an iron tripod candlestick in east Kent is from Richborough (2002, 148, fig 69, no. 25). The occurrence of this rather fine example on a farmstead near Richborough is, therefore, of immense interest. Why it ended up here and whether or not it originally came from Richborough (or indeed another site) is not known.

### *Period 4 discussion*

A series of east west aligned linear ditches (G10) marked part of the southern extent of a ditched enclosure (Fig 5). These ditches clearly marked an important boundary which was maintained over a relatively long period of time, from the late 1st century until the late 3rd century. The pottery and ceramic building material dates assigned to many features are quite broad, so the date of the establishment and abandonment of the settlement cannot be precisely dated, but it is clear the settlement was established before AD 100 and was not abandoned until after AD 270–300. Four badly corroded copper coins were found and one was dated to AD 260–90 (G12).

To the north of the linear ditches (G10) the location of the settled area was indicated by the presence of a timber building (Building 1). This building was dismantled during the late 2nd or 3rd century. The rest of this settlement lies to the north of the site under the Sandwich Road. Watching brief observations along the line of the road revealed several features of unknown date.

The enclosure was entered via a metalled trackway (Road 1) flanked by ditches and a gap in the ditches and a number of curved lengths of segmental ditch (G11). This trackway was presumably ditched so that livestock could be driven along it. On the south side of the enclosure ditches there was a relatively high density of features – including small ditches, pits and isolated robbed out postholes. Temporary buildings may have been erected here. Many features within this area are undated (G9), but most are probably of Roman date. To the south-west of the settled area was an area of contemporary ditched fields (G14), which superseded an earlier one of uncertain date (Open Area 3).

The spatial extent of the settlement is uncertain, but it is interpreted as part of a Roman farmstead, like the one found nearby at Each End. Excavations in 1992 at Each End revealed Roman cremation burials, wells, yard surfaces, ditches, and a length of metalled road. The Each End settlement was established during the Iron Age and was continuously occupied until the late 2nd century when it reached its maximum extent. The impression is that the settlement started to contract during the 3rd century, but it was not actually abandoned until the 4th century (Hicks 1998, 108–111).

Construction work on the site of Ash Workhouse during the 19th century apparently revealed ‘a samian saucer’ and other sherds of Roman pottery (Haverfield and Taylor 1932, 144), but it has not been possible to trace this material.[3] In the mid 19th century ‘two Roman urns’ were discovered during the excavation of the foundations for Captain Godden’s house (formerly the Vicarage, now 45 Sandwich Road) (Planche 1864, 129) (Fig 2). Captain Godden was then one of the owners of the adjoining brewery (period 8). In 1856 it was recorded that an amphora (27 inches high) containing ‘burnt human bones’ and ‘several other olla or dishes and a large patera of red ware’ had been found on the property of Captain Godden. This may be a separate record of some of the same material described by Planche·[4] It seems likely that these two ‘urns’ were both amphorae which were reused to contain cremation burials, perhaps similar to those found at Each End (Hicks 1998, 111). If this interpretation is correct then it implies that the community’s cemetery was situated to the east of the settlement.

### *The economy and status of the Roman settlement*

During the Roman period is it clear that the East  Kent countryside was densely settled. Some of these rural settlements were large country houses described as ‘villas’, while others like settlement at the Puma Power site were much less grand and consisted of clusters of timber buildings and enclosures, which are interpreted as farmsteads. ‘Most probably represent small-scale farming, whether by independent peasants or tenants of larger landowners. They cannot be dismissed as mere subsistence farmers since the very presence of artefacts like Roman pottery implies that they were integrated into the provincial economy, albeit on a modest scale’ (Millett 2007, 156). The aim of this section is to consider to what degree the inhabitants of the site were integrated into the regional economy, and also to briefly consider what goods they would been selling and their status in terms of excavated material culture.

The charred plant remains recovered from site show that spelt wheat, barley and possibly oats were cultivated locally. Spelt and barley are the cereals most commonly found on Roman sites in southern England (Davis 2004). Finds of fragments of quern stones shows that the grain was being processed on site.

The Roman faunal assemblage indicates the inhabitants' main source of meat was beef from adult cattle, but that horses, sheep/goat and pigs were also present (Pipe 2004). The absence of poultry is probably only a reflection of the small size of the faunal assemblage. Cattle carcase part recovery indicates selection mainly of the upper and lower fore and hind limbs with some recovery of the skull, ribs and feet; generally areas of good and moderate meat-bearing quality. There was no recovery of the horncore or toes suggesting that these elements were disposed of elsewhere, possibly as a result of removal, with the hide, for subsequent tanning and hornworking activity (Serjeantson 1989, 139–141). It is also possible that bone waste was being processed on site to extract grease (G12).

It is believed that the Sandwich Road through Ash (A257) is broadly following the Roman road between Canterbury (Durovernum Cantiacorum, the regional civitas capital) and the important port of Richborough (Rutupiae). A second Roman road passed north south from Richborough to Dover via Ash (Margary 1955, 31–34). Evidence of an additional Roman road between Ash and Richborough (which would have required a ferry over the Wantsum Channel) was discovered during the excavations at Each End (Hicks 1998, 103). By c AD 200 Reculver (Philp 2005, 216) and by c AD 275 Richborough (Johnson 1987), located at opposite ends of the Wantsum channel were both Roman Saxon shore forts intended to prevent seaborne raiders entering the straits (Fig 7).

The site was thus situated along an important Roman road some 14km east of Canterbury and 4.5km west of Richborough, with easy access to other roads. Both these urban centres show extensive evidence of Romanization. Canterbury possessed a theatre, a temple precinct, public baths, and a forum/basilica complex (Lyle 1994, 29–30). Early Roman Richborough possessed a monumental arch, two temples and an amphitheatre (Johnson 1987). Curiously the site shows relatively little evidence of Romanization in terms of material culture, with the exception of the iron tripod candlestick (discussed earlier), which is a very unusual find and might have come from Richborough. The small pottery assemblage from the site appears to be

typical of east Kent, as it predominantly consisted of locally produced wares (sand and grog tempered wares make up 58% of the assemblage by sherd count), regionally traded wares as well as a few sherds of imported wares including Dressel amphorae. This ceramic assemblage should not be described as impoverished, but it is curious that more of the vast amount of imported wares found at Richborough did not find their way here.

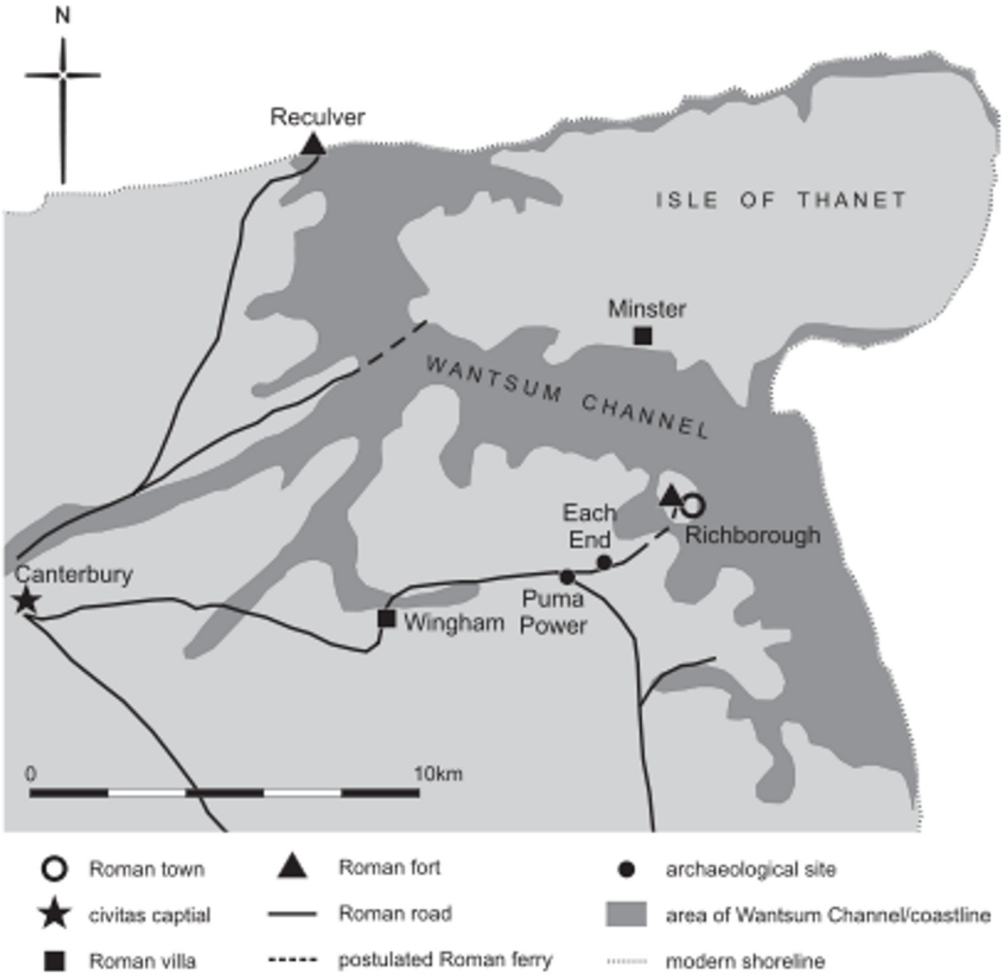


Fig 7 The area in the Roman period showing roads, urban centres and the extent of the Wantsum Channel

Very little ceramic building material was found at the site and the presence of a fragment of box flue tile implies that second hand material was brought here for reuse. The impression is that the site's inhabitants and some of their neighbours (such as the people living at Each End) had relatively little contact with their urban neighbours. However, the presence of a substantial villa complete with a bathhouse nearby at Minster on the Isle of Thanet and another villa at Wingham complete with hypocausts, tessellated pavements and a plunge bath, shows that some of the rural population sought a more sophisticated lifestyle (Dowker 1882; Millett 2007. 152-55; Perkins 2004).

Why were the inhabitants of this site and those of Each End not adopting more of the trappings of a Roman life style? It is hard to imagine that they were too poor to buy these things as this area had a high potential for agriculture and horticulture and they had excellent access to the local urban communities, who presumably would have wanted to purchase a wide range of

foodstuffs. There are two possibilities why some elements of the rural community of east Kent were apparently ignoring all the Romanisation and villa building that was going on all around them. Firstly, the tenurial set-up of this region is unknown during the Roman period, but it is possible that it consisted of tenant farmers, who consequently had no interest in erecting villas on land they did not own. Secondly, wealth can be stored in ways that may leave little archaeological trace. It is really a question of cultural preferences.

## *Post-Roman hillwash: period 5*

### Open Area 7: hillwash

In trenches 1, 12 13 a thick deposit of light greyish brown or orange-brown, silty fine sand is interpreted as Holocene hillwash, derived from the underlying Thanet Beds (G15) (Fig 2). In trench 13 it was 1.02m thick (top 20.44m OD). It showed extensive evidence of biological reworking and clearly was a subsoil horizon during the post-medieval period and was sealed by 19th-century topsoil (period 6). Finds included residual prehistoric and Roman material and a Red Ware bowl sherd (1575–1700). In 1840, 46% of the land of the parish of Ash (total 2837 hectares) was described as arable and a further 45% was described as pasture or marsh (Downes 2000, 85). The vast majority of this pasture would have been situated in 'Ash Level', the low-lying northern portion of the parish (see period1).

### *Period 5 discussion*

During the medieval period and until the late 18th century, the whole site formed part of the arable land of Ash, lying to the east of the village (Downes 2000, 20–34). There was clearly extensive down slope movement of topsoil during this period due to a combination of sandy topsoil and subsoil (always prone to erosion) and poor farming practice. When this erosion started is uncertain, but as it contained one sherd of post 1575 date, the bulk of this deposit is probably of post-medieval date (Fig 3).

## Post-medieval fields, road surfaces and features (other than the brewery): period 6

### Road 2: the Sandwich Road

The watching brief trench along the Sandwich Road, revealed an earlier post-medieval road surface consisting of compacted chalk, sealed by flints cobbles in a sand/gravel matrix (G16, Road 2) (Fig 8). In 1802 the Sandwich Road became part of the Canterbury to Sandwich turnpike trust, which managed the route until 1876 (Downes 2000, 74–75).

### Open Area 8: arable soil horizons and associated features.

An arable topsoil horizon was found in trenches 1, 11, 12 and 13 (Fig 2). Along portions of this layer's basal interface was evidence of mouldboard ploughing (G17). It contained fragments of 19th century pottery (Whittingham 2004). Subsoil horizons derived from the underlying Thanet Beds were present in many places.

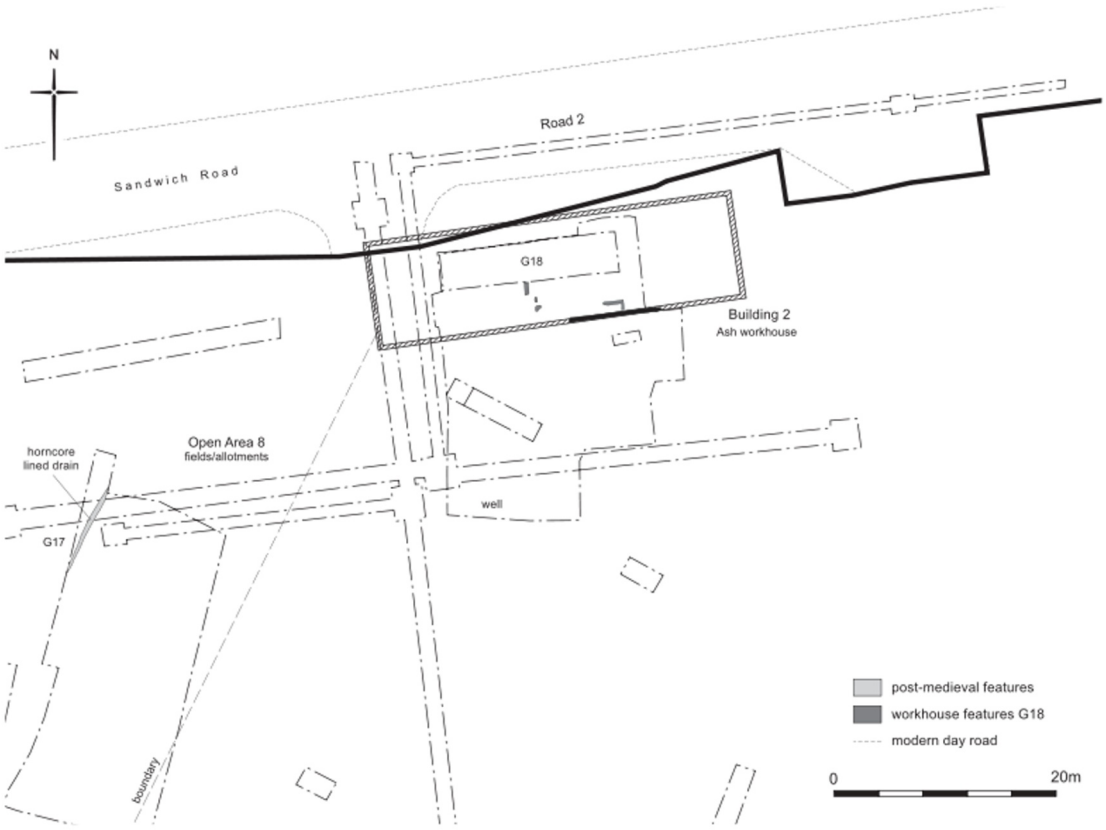


Fig 8 Post-medieval features (period 6) and the workhouse (period 7)

### *The horncore lined drain*

*Alan Pipe*

A horncore lined post-medieval land drain, was found in trench 12 (Fig 8). It consisted of a narrow, sloping sided trench with a concave base, aligned south-west to north-east, which flowed southwards (G17). It was backfilled with a mass of horizontally laid cattle horncores, set in matrix of mottled light grey silty fine sand. This feature is of a very similar design to a series of 17th-century horncore lined drains laid out across the infilled medieval city ditch at New Broad Street, in the City of London (Schofield 1987, 60).

The 19 horncores and attached ox skull fragments recovered from this drain represent the largest bone assemblage recovered from a single feature. Following the criteria of Armitage (1982), these horncores were assigned to the age classes of ‘adult’ (7–10 years old), ‘sub-adult’ (2–3 years old) and ‘juvenile’ (1–2 years old). Seven horncores were defined as adult, eight as sub-adult and three as juvenile. Two of the adult horncores were identified as male. Basal circumferences of 195, 228, 234 and 240 mm in the four measurable horncores correspond to the measurement range for medium-horned cattle (Armitage 1982, 42–50). Clear tool marks on three of the horncores show chopping at the base indicating deliberate detachment of the horncores from the skull presumably to allow future horn removal for further manufacture and suggesting that these cores are the discards from a horner’s workshop. The stripped horn coverings were probably used to make glazing panels for

lanterns or windows. One of the horncores with an attached skull fragment demonstrated that the animal had been pole-axed either as a method of slaughter or a precursor to it. (Pipe 2004).

### *The rubbish pit*

*By Lucy Whittingham*
In the extreme northern end of trench 12 was a rubbish pit (G17) (Fig 9). This pit contained frequent fragments of glass jars and bottles, tin cans and a large assemblage of domestic pottery dating to 1875–1920. The pottery comprised 117 sherds derived from 23 ceramic vessels. A range of tablewares, teawares and other utilitarian vessels was present: none formed any part of a set and they constitute a random collection of household domestic items.

The pottery includes transfer-printed Staffordshire 'Ironstone'-type white earthenware with blue or red transfer-pattern or lustre decoration; transfer-printed Pearlware; Later Staffordshire colour-bodied earthenwares in cream or blue; plain or transfer-printed English Porcelain; Yellow ware; Creamware; slip-coated coarseware, coarse red earthenware, refined red earthenware, English Stoneware (blacking bottles, paste pots, ointment pots, jars and bottles). Tablewares include plates, serving dishes and tureens; teawares include mugs, cups, saucers and a teapot lid; other utilitarian wares include rounded bowls, a slip decorated dish and a chamber pot. The overall date range of the assemblage suggests deposition as a single process of discard. (Whittingham 2004).

### *Period 6 discussion*

The western part of the site (trenches 1, 11 and 12) was farmland and allotments until the 1960s, when it was incorporated into the site (Fig 3). The topsoil horizons represent arable farming during the 19th and early 20th century and various rubbish pits and others features of uncertain function were dug within this area. One rubbish pit produced a large ceramic assemblage of late 19th-and early 20th-century date. A horncore lined land drain, is considered to be of 17th century date on stylistic grounds.

## Ash Workhouse and associated features: period 7

A fragment of a brick foundation of either late 18th-or early 19th-century date and a length of upstanding brick wall (English bond) are interpreted as part of the cellars of Ash Workhouse (Building 2) (G18) (Fig 8).[5] The upstanding brickwork was clearly part of the south wall of the building. An oval pit, two robbed postholes, a robbed out post pad and a short length of robbed out wall are interpreted as internal features within the workhouse cellars.

### *Period 7 discussion*

The period 7 features and walls are all interpreted as part of the cellars of the new Ash Workhouse (opened 1780), which was built along the Sandwich Road frontage (Downes 2000, 65) (Fig 8). In 1799 it was described as 'a large and commodious workhouse' (Hasted 1799, 220). The workhouse remained in use until 1836, when it was converted into a brewery (see period 8).

## Gardner’s Brewery: period 8

### *Open Area 9 external features and Building 3.*

There were a number of external features, plus sand dumps and a crushed chalk surface found in test pit 2 (Fig 2), which are attributed to the construction of the brewery (G19).

Other features belonging to the brewery included a series of earthen ware ceramic, horse shoe shaped land drains dating to 1826–50 (G21), which were laid below a brick paved floor installed within the former workhouse cellars (Building 2).[6]

There was one, external circular brick lined well, the lining of which had been robbed out (G22) (Fig 9, well 1). This well was probably superseded by a nearby, larger circular, brick lined well structure with a domed capping (well 2). This well had apparently gone out of use by 1892, when it is recorded that the brewery water supply was taken from an artesian well.[7] These wells all formed part of the brewery’s water supply, but it is possible that the earliest one (well 1) was constructed to serve the workhouse.

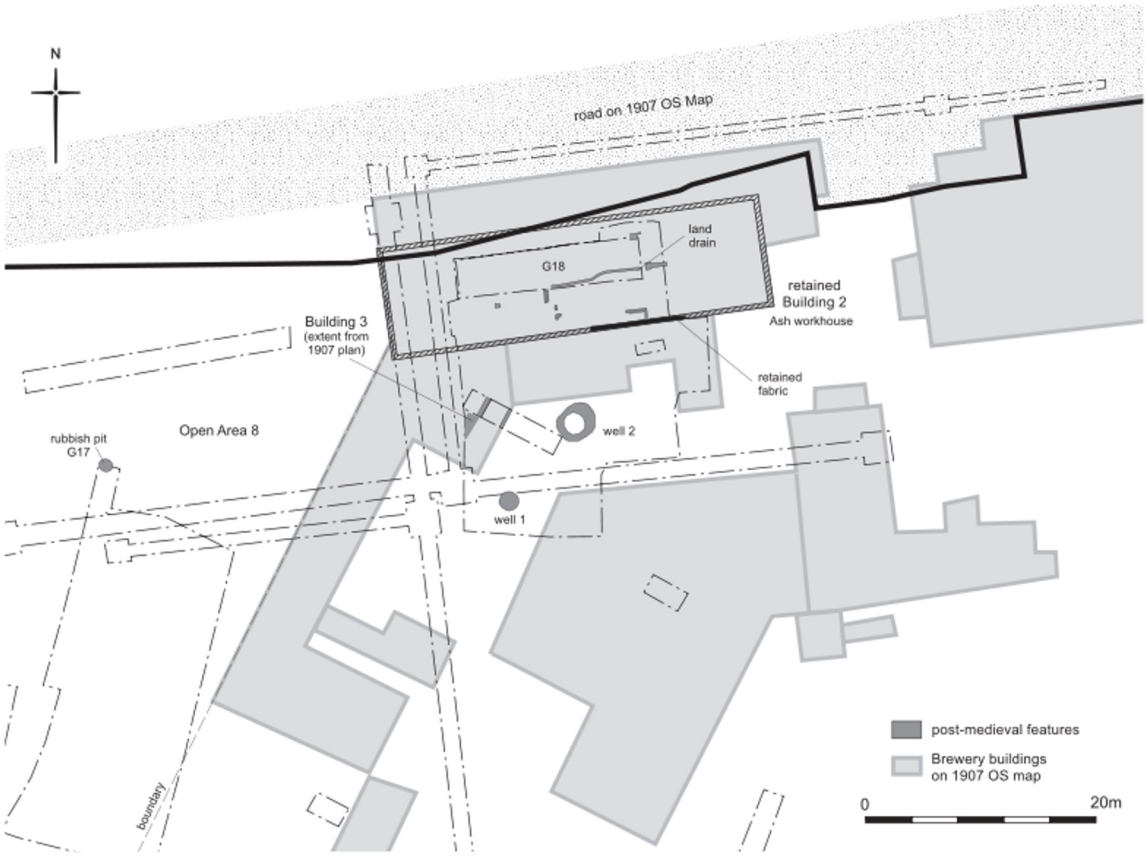


Fig 9 Buildings and other features of the brewery (period 9).
The extent of the brewery buildings in 1907 is shown

There were two phases of brick-built cellar in trench 13 (Building 3) (G20) (Fig 9). The full extent of this building can be determined from Ordnance Survey maps, which confirm it was in existence by 1872.[8] The floor of the later phase of cellar had been removed during the demolition of the superstructure in c 1968, when the cellar was backfilled. Finds from the backfill of the cellar included two green glass half pint beer bottles bearing the inscription: 'Gardner & Co Ltd Ash Brewery' and 'Ash & Co Canterbury'.

### *Period 8 discussion*

In 1836 Ash Workhouse was sold to John Bushel, who converted it into a brewery, which he sold in 1840 to William Gardner of Bekesbourne (Downes 2000, 72). From 1855 the company traded as Gardner and Godden. Gardner's Brewery occupied the central portion of the site until 1968 (Fig 9), when the site of the brewery was bought by Grahame Puttick Ltd, manufactors of diesel-electric generators, which latterly became Puma Power Ltd (Downes 2000, 147). All the brewery buildings within the western portion of the site were demolished during the late 1960s. While a number of brewery buildings on the eastern portion of site, including two staff houses, a bottling house and pump house were retained (Lowe 2003). It appears that until 1968, the south-eastern portion of the site was under separate ownership as part of gardens of 45 Sandwich Road.

## Conclusion

The site revealed archaeological evidence for occupation from a number of periods.

Prehistoric material was generally sparse – two sherds of pottery and five worked flints, the latter of late Neolithic or Bronze Age date (c 2500–500 BC), were found as residual items within Roman contexts – but a late Bronze Age or early Iron Age (c 1000–500 BC) waste pit in the north of the site of could hint at a settlement of this date nearby, perhaps to the north of the Sandwich Road.

The duration of Roman activity on the site probably spanned from the 1st century until the 3rd century AD. Two phases of boundary ditches and the remains of a timber building provided evidence for a farmstead which extended further north under the Sandwich Road. With the exception of an iron tripod candlestick the site showed relatively little evidence of Romanization in terms of material culture. The small pottery assemblage consisted predominantly of locally produced wares and it is noteworthy that more of the imported wares, so common at Richborough, did not find their way here.

The Roman farmstead and its landscape were sealed by a thick accumulation of hillwash, probably mostly laid down in the post-medieval period. They were cut by a horncore-lined land drain, which may be of 17th-century date. Otherwise, there is no evidence for use of the site until 1780, when the new Ash Workhouse was built along the Sandwich Road frontage. Subsequently the site was occupied by a brewery and industrial premises.

## Endnotes

1 Trench 10 was not excavated due to problems with the slope of the site and a lack of space.

2 Iron candlestick, accessions <5> and <6> context 51. Incomplete; Ht c 140mm, max Diam of socket 18mm, Diam of drip-tray c 52mm, Diam of each curling terminal 28mm. Over half of a tripod candlestick; long, narrow conical socket riveted onto a circular drip tray with the remains of one curving foot. The foot, tray and socket are all riveted together, as are the two curling terminals, which extend upwards to either side of the socket.

3 This material was described as part of the Mayer Collection of Liverpool Museum. Enquiries during 2005 revealed the museum has no Roman material from Ash, but some Samian and other pottery from Richborough. Christine Longworth, curator of British and European Antiquities, pers comm.

4 Meeting of 8th May 1856, Proceedings of the Society of Antiquaries of London vol, 3, 1856, 285.

5 Only the position of the west and south walls of this building can be established with certainty, it is the four storey building, situated to the rear of the brewery building in a photograph of c 1875, see Downes (2000, fig 34).

6 Hand-made 'horseshoe' drain tiles of this sort usually date from the late 18th or the first half of the 19th century. From 1826 all drain tiles (and bricks used for drainage structures) were exempt from the Brick and Tile Tax (first imposed in 1784) if they were stamped with the word DRAIN. The presence of such a stamp on one of the tiles would indicate a post-1826 date for this drain (Betts 2004).

7 'Where East Kent Pale Ale Originated', Kentish Express, 27th August 1892.

8 Kent OS 25inch, sheet XLVIIII, 1st edition 1872.

NOTE

**The site was excavated by Museum of London Archaeology (MoLA) which was known until October 2008 as the Museum of London Archaeology Service (MoLAS). All references made in this report, other than those in the bibliography to publications pre-dating October 2008, are to MoLA.**

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