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# AN ARCHAEOLOGICAL INVESTIGATION AT KINGSBOROUGH FARM AND KINGSBOROUGH MANOR, EASTCHURCH, ISLE OF SHEPPEY

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with contributions from Malcolm Lyne, Lorraine Mephram, Luke Barber, Jacqueline McKinley, Lucy Sibun, David Dunkin, Rowena Gale, Chris Stevens and Michael J. Allen.

Archaeology South-East (a division of University College London Field Archaeology Unit) was commissioned by Jones Homes (Southern) to undertake an archaeological evaluation of the site, one of the highest points on the Isle of Sheppey, in March 1999 (Fig. 1). A range of plough-truncated archaeological features were identified in a number of the evaluation trenches (Stevens 1999), but owing to a lack of time prior to the commencement of the building programme, a second stage of evaluation was not undertaken, and subsequently ASE was commissioned to undertake a full excavation of archaeological remains in the southern part of the site.

The most significant remains encountered were those of an Early Neolithic Causewayed Enclosure (K1), only the second to be positively identified and excavated in Kent (Dyson *et al.* 2000). Between 1999 and 2006, further fieldwork by Wessex Archaeology (additional evaluation, watching brief and excavation) carried out in the northern part of the site uncovered part of a second Causewayed Enclosure (K2), providing a rare example of two such monuments in close proximity. In addition, Bronze Age and Iron Age enclosures with associated cremation burials and other features were recorded (Allen *et al.* 2008). The current report presents the results of the excavations of the Late Iron Age, Romano-British, Anglo-Saxon, medieval and post-medieval features recorded at the site. Fuller descriptions of all of the archaeological features are held in the site archive held with ASE).

## THE FEATURES

*Late Iron Age/Early Romano-British* utilisation of the site was evident

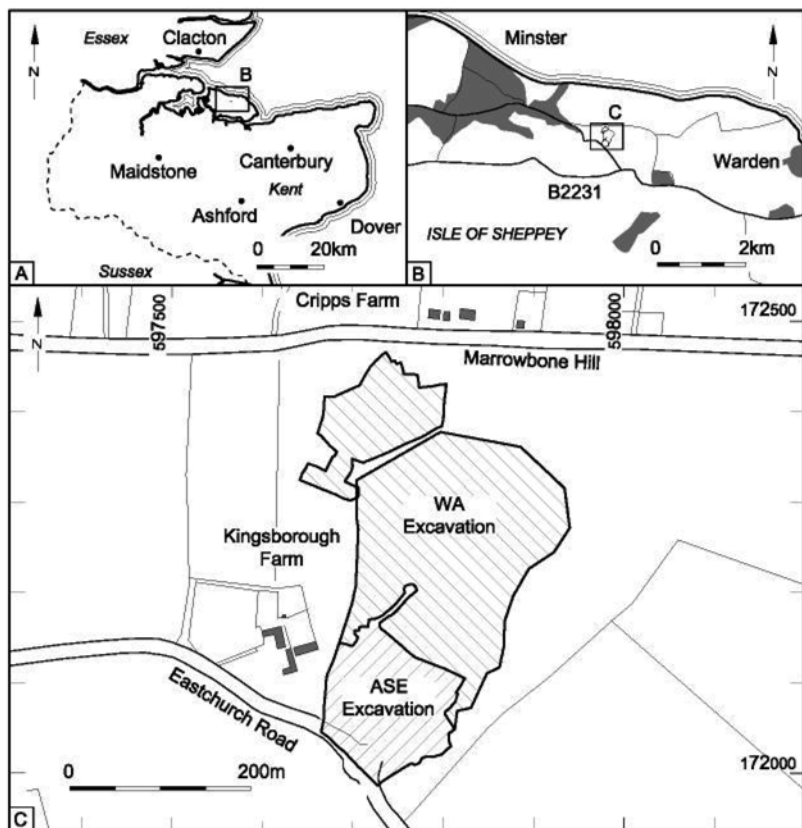


Fig. 1 Site Location.

with a possible droveway represented by recut ditches forming the most obvious evidence (Fig. 2). There were also small quantities of similar pottery in a number of features, but given the high levels of residuality and intrusiveness encountered at the site it is considered unwise to date features on the evidence of the recovery of single sherds of abraded pottery.

*Later Romano-British.* A small number of features were dated to the Roman period on the basis of ceramic assemblages. These consisted of a number of ditches and gullies forming the remains of tracks, drove-ways and field boundaries, spread thinly across much of the area examined during the separate phases of work at the site.

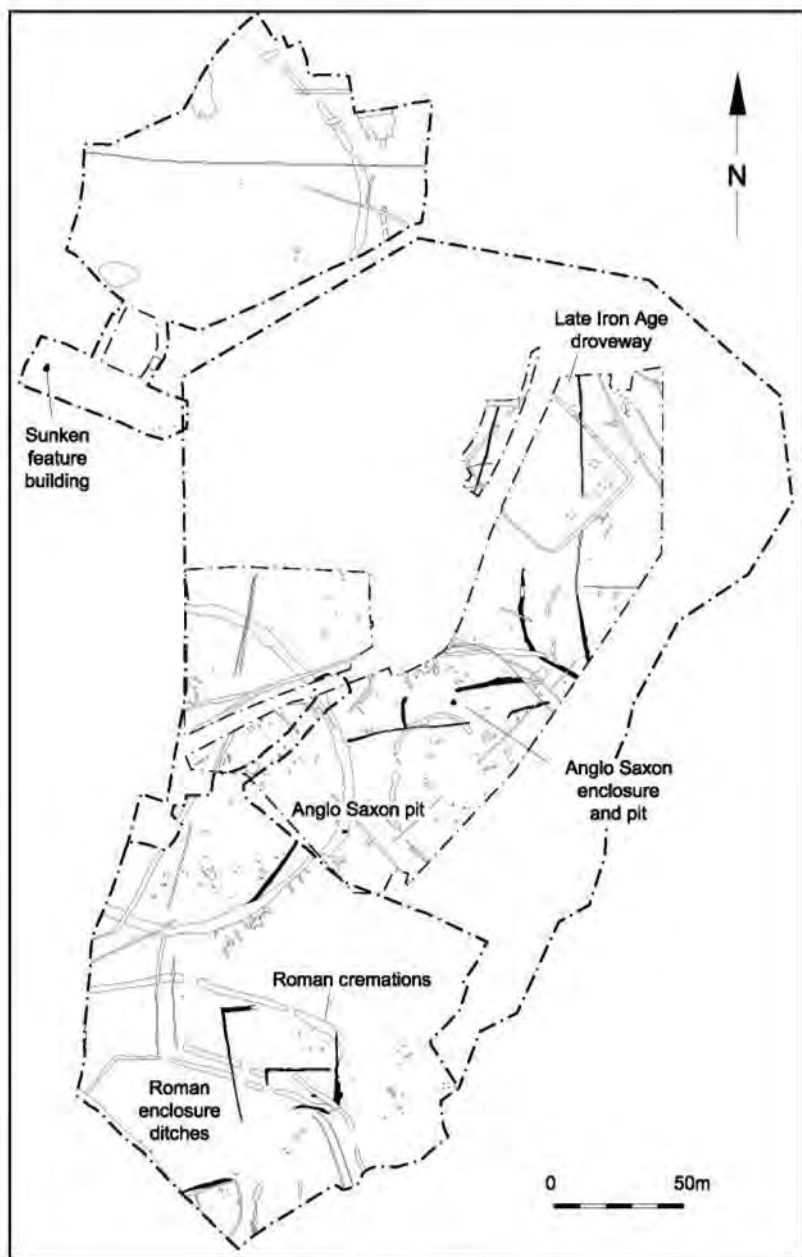


Fig. 2 Excavated Features.

The remains of a field system/systems were found partially overlaying Causewayed Enclosure K1, with pottery suggesting a second- to third-century date recovered. Gullies of uncertain date may represent a trackway leading to the fields from the south and perhaps to the west, although these features may be medieval in date. The dated features appear to form part of a rectilinear field system, on a north-south or east-west axis.

However, two features at the site are worthy of further consideration: a pair of second-century cremation burials found within the outer ditch of Causewayed Enclosure K1 (**Fig. 3**). Neither feature had a discernible cut; the cremation burials lay within material derived from the upper fill of the ditch. Both had suffered considerable plough truncation, but pottery, cremated human bone, and a glass vessel survived. A small platter had been dislodged and lay in the ploughsoil close to the cremation burials. It remains uncertain from which burial it originated.

*Cremation burial 1* (Feature 223) consisted of a group of at least three vessels, all heavily truncated, resulting in the spread of cremated bone throughout the excavated feature. The vessels consisted of a fine Thameside ware jar (Pot 1), a samian platter (Pot 2) and a flagon in

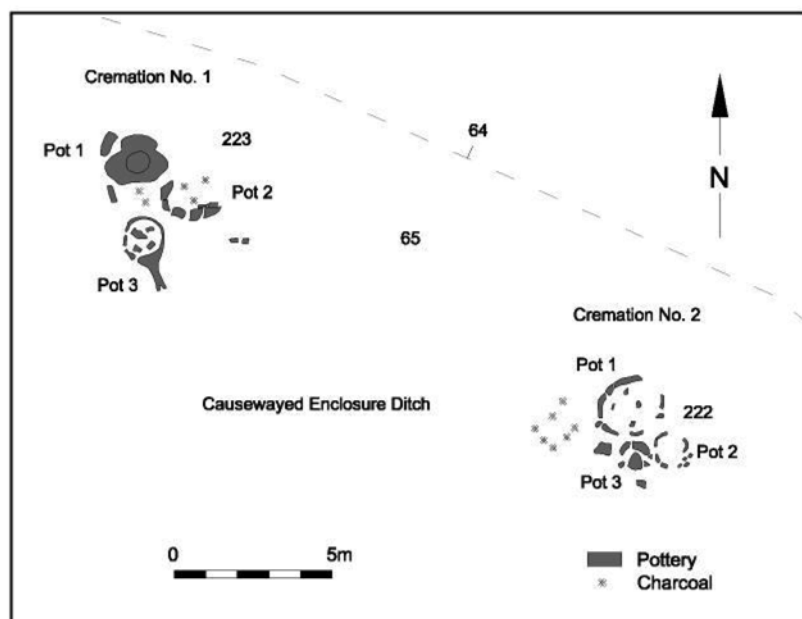


Fig. 3 Cremation Burials.

local greyware (Pot 3) placing the date of the burial in the range *c.* AD 150-200. Sherds from two other pots were recovered.

*Cremation burial 2* (Feature 222) was of similar date and consisted of four vessels. Again there had been obvious truncation, but human bone was recovered from the interior of the jar (Pot 1), as well as from the general grave fill. The pottery vessels consisted of a 'Native Coarse Ware' jar (Pot 1), a flagon (Pot 2) and a samian cup placed on a samian platter (Pot 3). Fragments of a blue/green glass bottle lay on top of the pots.

*Early/Middle Anglo-Saxon period.* A handful of features containing Early/Middle Anglo-Saxon pottery were recorded in the northern part of the site. Again, as in the case of many of the features containing Roman pottery, sherds numbers and weights were often low, but there did appear to be evidence of a ditched rectangular enclosure. Early/Middle Anglo-Saxon pottery was recovered from the ditches in reasonable quantities. Smaller assemblages were recovered from nearby stretches of ditches and single sherds were recovered from pits. In addition, a contemporary radiocarbon date (cal AD 430-650) was obtained from charcoal in a further charcoal-rich pit (6084). Although otherwise undated, pit 6084 may represent a sunken-feature building. It was a somewhat irregular, sub-rectangular shape in plan, aligned approximately north-south, and measured 2.45 x 2.10m. It was only 0.12m deep with gently sloping sides and a flat base. No post-holes were present in the excavated half. In the northern part of the pit, a deposit of fragmentary oyster shell was overlain by a charcoal-rich layer which filled most of the remainder, but neither produced any finds.

Even if firm conclusions cannot be drawn as to the close date and function of some of these features, the presence of Early/Middle Anglo-Saxon pottery clearly suggests activity in the fifth to seventh centuries.

*Medieval.* A number of features were encountered which contained medieval pottery, all dated to the twelfth and thirteenth centuries. Again, sherd numbers were small in most cases, suggesting that definite dating of features based on the pottery would be unwise. There were, however, some exceptions suggesting medieval activity. A cluster of such features was recorded to the north of K1.

The largest assemblage of pottery came from a large pit. Medieval material was recovered from three of the fills. Small quantities of fish bone and shell were also present, in addition to environmental evidence of plant processing waste. Other reasonably sized pottery assemblages were recovered from nearby post-holes. The fragmentary remains of a field system and possible trackway were also encountered in this area of the site.

*Post-Medieval.* A small number of features dating to the post-medieval period were identified spread thinly across the investigated areas. Pottery dating from the eighteenth and nineteenth centuries was recovered in small quantities.

#### THE FINDS

##### The Late Iron Age and Romano-British Pottery *by Malcolm Lyne*

The overwhelming bulk of the pottery seems to be of second- to early third-century date and includes reconstructable pots from two cremation burials. A further stray vessel is from one or other of these burials. The small amount of Roman pottery does, however, include kiln wasters in North Kent (Upchurch) fine greyware. A full list of fabrics is included in the archive.

Most of the early Roman pottery came from the southern end of the site and includes vessels from two cremations:

*Cremation burial 1* (Context 223): this was made up of three vessels and can probably be dated *c.*AD 150-200:

- 1) the lower part of truncated jar in very-fine Thameside fabric fired rough grey-black with buff-to-brown margins, *c.*150-270/300;
- 2) a central Gaulish samian Dr 18/31 platter with obliterated stamp, ext. rim diameter 160mm, *c.*120-150;
- 3) flagon of Monaghan type 1E2-3 (1987) in North Kent fine greyware *c.*120/30-190/200.

Six fragments from a closed form in oxidized Hoo fineware (*c.*AD 43-250/70) and eight from a jar in transitional Belgic Grog-tempered/Native Coarse Ware fabric (*c.*AD 70-200) are also present.

*Cremation 2* (Context 222): there are four vessels in this similarly-dated cremation group:

- 1) the lower part of a knife-trimmed truncated jar in grey 'Native Coarse Ware' (Pollard 1987, 298), *c.*170-250/300;
- 2) the lower part of truncated flagon of uncertain type in red Hoo fineware;
- 3) a small Dr 33 cup in central Gaulish samian, ext. rim diameter 100mm, *c.*120-200;
- 4) a deep Dr 31 platter in similar fabric with obliterated stamp, *c.*150-200.

Seven sherds from a Thameside greyware jar are also present.

The ploughsoil over cremation burials 1 and 2 yielded the greater part of a very small platter of Walters 80 type (*c.*AD 160-200); it is uncertain as to which cremation group this comes from.

As with many of the earlier assemblages from elsewhere at the site (Allen *et al.* 2008) the Roman groups tend to be very small and from field ditches and other features peripheral to domestic activity: that from ditch fill context 149 is the largest and includes fragments from a Monaghan type 5E3.1 dish in BB2 fabric (*c.*AD 130-230), a bowl of type 5C2.2 in Thameside greyware (*c.*AD 120-210) and a jar in Native Coarse Ware (*c.*AD 170-250/300).

Most of the small Roman pottery assemblages from the southern end of the site are of similar second- to early third-century date, as are assemblages of residual pottery from Ditches 2251, 2252 and 2259 in the northern part of the site. Similar residual assemblages from Ditches 2256 and 2257 cutting the earlier Iron Age ditched enclosure 2268 are too small to be dated more precisely than Late Iron Age to Early Romano-British but include a kiln waster sherd in North Kent fine greyware. There are no Late Roman sherds from the site.

#### The Anglo-Saxon Pottery by Lorraine Mephram

A total of 81 sherds (521g), all in organic-tempered fabrics, has been dated as Early/Middle Saxon. Three separate fabrics were defined on the basis of the range and frequency of inclusions, although it is likely that these represent slight variations within a single fabric type rather than discrete types. All have a similar clay matrix, fine-grained and slightly micaceous. The three fabrics are described as follows, and are coded following the standard Wessex Archaeology recording system for pottery (Morris 1994):

- V400 Fine-grained clay matrix, slightly micaceous, containing abundant organic inclusions, which have burnt out leaving linear voids (52 sherds; 401g).
- V401 As V400 but with lower frequency of organic inclusions (27 sherds; 112g).
- V402 As V400 but with sparse, poorly sorted and prominent quartz grains (<1mm) (2 sherds; 8g).

The only reconstructable profile came from ditch 2247, comprising the upper part of a rounded vessel with a short, everted, unthickened rim. Two other rims (ditch 2255 and pit 2293) are also short and unthickened, but vessel profiles are unknown. One rounded basal angle was observed in ditch 2259.



A date anywhere within the range of fifth to seventh centuries is possible for this small group of pottery from Kingsborough. Organic-tempered vessels are known from a number of sites in Kent, both funerary and domestic, e.g. Cuxton and Saltwood cemeteries on the Channel Tunnel Rail Link route (Barclay *et al.* forthcoming) and a small settlement site at Manston Road, Ramsgate (Wessex Archaeology 1998), but these wares are generally dated on the basis of more diagnostic forms and decoration, and/or association with more closely datable types such as imported wheel-thrown wares. At the large Saxon settlement site at Mucking, Essex, however, sufficient data were recovered to indicate an increase in the use of organic tempering in the sixth and seventh centuries (Hamerow 1993, 31).

Sixteen contexts produced pottery of this date, of which most (60 sherds) came from Saxon boundary ditches 2247 and 2255. This includes a small group of 37 sherds from one section (2309) across ditch 2247, but otherwise the distribution of pottery was relatively sparse. A further eight sherds came from medieval boundary ditches 2251 and 2252, with the remaining 13 sherds scattered amongst various isolated features. The two sherds in Romano-British droveway ditch 2243 are presumably intrusive.

#### The Medieval Pottery by Luke Barber (Fig. 4)

The excavations produced 193 sherds of medieval pottery, weighing 1,251g, from 26 contexts. The pottery consists of small to medium-sized sherds (average sherd size being 6.5g), with both abraded and unabraded pieces being represented. The assemblage comes virtually exclusively from ditches and pits though context groups tend to be small (the largest, from Context 55, consisting of a mere 29 sherds, most of which are from a single twelfth-century cooking pot with flaring rim). Residuality/intrusiveness appears to be absent or very low, though the small size of the context groups makes it difficult to be certain in many instances.

The main aims of the pottery analysis were to help with the dating and phasing of the excavated deposits where possible and to show the range of fabrics and forms present at the site. All the studied pottery was divided into fabric groups based on a visual examination (using a hand-lens where necessary) of tempering, inclusions and manufacturing technique and quantified by context (tabulated in the site archive). Context groups were then spot dated.

The fabric codes are based on the inclusion types, though reference is also made to the Canterbury Archaeological Trust Fabric code as the site clearly falls within the influence of the Canterbury market. Numbers in brackets give the total sherd count/weight for the whole assemblage:

- 1) Fabric S1: Shell tempered ware. Moderate/abundant shell/voids to 2mm.

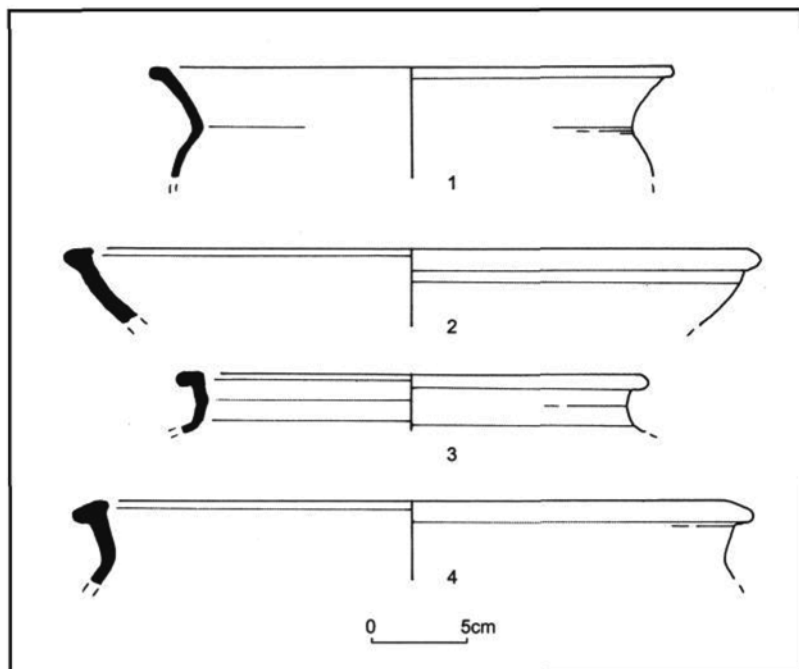


Fig. 4 Medieval Pottery. (1) Cooking pot with flaring beaded rim. Dark grey core and surfaces. Fabric 3. Pit/post-hole 54, Fill 55. (2) Shallow bowl with club rim and internal bead. Mid grey core, light/mid grey outer and dull orange inner surfaces. Fabric 3. Ditch 2843, Fill 2845. (3) Cooking pot with club rim and slight internal bead. Grey core and orange brown surfaces. Pit 112, Fill 124. (4) Cooking pot with club rim. Mid grey core with dull orange surfaces. Fabric 1. Pit 112, Fill 125.

Grey cores and dull orange brown surfaces. Low to medium fired. CAT Fabric: EM2, dated later eleventh to early thirteenth century. (56/344g.) Cat. Nos 3 and 4.

- 2) Fabric S+Q1: Shell and sand tempered ware. Sparse/moderate shell/voids to 2mm and sparse/moderate medium sand. Grey cores and dull orange brown to grey surfaces. Medium fired. CAT Fabric: EM3, dated later twelfth to mid thirteenth century. Similar to Ashford Potter's Corner (Grove 1952) though possibly from a more local source. (13/102g.)
- 3) Fabric Q1: Abundant medium/coarse sand tempered ware. Moderate/abundant sand. Grey or orange cores and dull orange to dark grey surfaces. Medium fired. CAT Fabric: EM1 (Early medieval

Canterbury sandy ware), dated mid twelfth to mid thirteenth century. This ware is perhaps the earliest from the Tyler Hill kilns and develops into Fabric 4) during the early/mid thirteenth century. (116/784g.) Cat. Nos 1 and 2.

- 4) Fabric Q2a: Moderate medium sand tempered ware. Moderate medium sand. Grey or orange cores and dull orange brown surfaces. Medium fired. CAT Fabric: M1 (Early Tyler Hill sandy ware), dated thirteenth to early fourteenth century. This ware appears to develop from Fabric No. 3. (8/21g.)

The pottery assemblage is dominated by Fabrics 1 and 3, suggesting that the majority of the activity during the medieval period relates to the early/mid twelfth to early/mid thirteenth centuries. Forms are very limited and consist of cooking pots with flaring rims, sometimes with external beads (Cat. No. 1) and shallow bowls (Cat. No. 2). These two forms account for all the vessels in Fabric 3. Vessels in Fabric 1 appear to consist of cooking pots (Cat. Nos. 3 and 4) and bowls, but with much heavier club rims. No jugs are present. Fabric 2 can be seen as a development of Fabric 1 and shows continued activity throughout the first half of the thirteenth century. Forms in this fabric appear to be limited to cooking pots with more developed, and finer made, club rims. The very low quantities of Tyler Hill ware (Fabric 4) suggest activity did not extend much beyond the middle of the thirteenth century. The few Fabric 4 sherds which are present are all small and abraded and consist of cooking pots with developed rims and a single small glazed jug sherd (3008).

Although there have not been many medieval assemblages from this area in the past the general pattern appears to fit closely with that known of from Canterbury and its hinterland (Blackmore 1988). Canterbury Sandy Wares shared the market with the cruder shell-tempered wares from at least the mid twelfth century. The finer Tyler Hill wares gradually take dominance from the mid thirteenth century (Spillet *et al.* 1942; Cotter 1991), but the current site appears not to have seen much domestic activity by this time. The total absence of imported wares, as well as jugs, may be due in part to the early date of activity and small assemblage size. However, it is probably more a reflection of a low status site which always had its ceramic needs catered for by the local industries.

#### The Glass by *Luke Barber*

Glass was only recovered from Context 222, one of the Romano-British cremation burials. The seven fragments (134g) are from a single blue/green square-sectioned, handled bottle with an embossed geometric design on the base (**Fig. 5**). The associated ceramic vessels within this

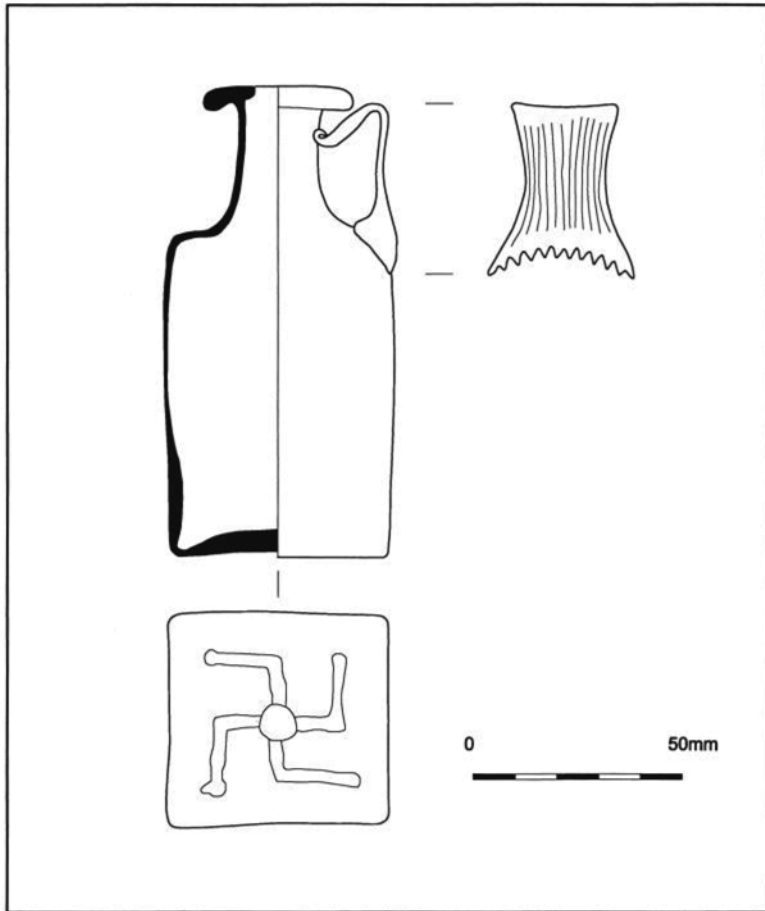


Fig. 5 Roman Glass Bottle.

cremation group suggest a date in the second half of the second century AD, a period when this type of vessel was in common use for both domestic and funerary purposes (Price and Cottam 1998, 195).

Geological Material *by Luke Barber*

The only stone recovered for the *Romano-British* period consists of

Niedermendig lava rotary quern fragments with stone thickness varying between 25-28mm (though only two querns may actually be represented). With the exception of a single 'hard variant' piece (66g) from Context 2851 (possibly intrusive), all the material is from a single 'friable variant' quern in Context 7. Interestingly, no local/residual stone appears to have been incorporated into the few contexts of this period.

With the exception of a probably residual piece of cherty sandstone, the whole *medieval* assemblage consists of Niedermendig lava quern fragments ('hard variant') with stone thicknesses similar to those noted for the Roman period. Such material is common on medieval rural sites in the area.

#### Human Bone by *Jacqueline I. McKinley*

Cremated bone from three second-century Romano-British contexts was received for analysis. The bone derived from two graves located on the northern margins of the causewayed enclosure, one containing the remains of an urned burial and the other the remains of two burials – one made urned the other unurned (**Table 1**).

Recording and analysis followed the writer's standard procedure (McKinley 1994a, 5-21; 2004a). Age was assessed from the stage of skeletal and tooth development (Beek 1983), and the patterns and degree of age-related changes to the bone (Buikstra and Ubelaker 1994). Sex was ascertained from the sexually dimorphic traits of the skeleton (*ibid.*). A summary of the results is presented in Table 1; full details are held in the archive.

TABLE 1: SUMMARY OF HUMAN BONE ANALYSIS FROM ROMANO-BRITISH CREMATIONS

Cxt	Cut	Deposit type	Total weight (g)	age/sex	pathology	pyre goods
222	1000	urned burial + rpd	219.9	1) adult c. 23-40 yr. female		0.5g bird bone
		urned burial	222.9	2) adult c. 30-45yr. ??male	osteophytes – 1 lumbar	1.2g bird (?goose) bone
223	2000	urned burial + rpd	332.7	adult c. 30-45 yr.	osteophytes – auricular surface	

Note: rpd = redeposited pyre debris.

There is no data regarding the surviving depth of the Romano-British graves, though similar features elsewhere on the site ranged between 0.03

and 0.25m in depth, and some level of truncation is likely to most features and deposits. It is possible that some bone was lost from these features but it is probable that most remained *in situ*.

The bone is in good visual condition with moderate quantities of trabecular bone; until they were disturbed the urns will have provided the bone with a degree of insulation from the acidic environment of the grave fill.

A minimum of three individuals are represented within the two graves, all young-mature adults including a minimum of one female and one probable male. Slight osteophytes (irregular growths of new bone along joint margins) were observed in the remains of two individuals (Table 1). Osteophytes may develop in response to a number of conditions but the slight lesions observed here probable reflect age-related wear-and-tear.

Most of the bone is white in colour, indicative of full oxidation of the bone (Holden *et al.* 1995a and b), though some variations were observed in a few bone fragments from both burials. Between one and four fragments were affected; a blue or black inner core to a femur or tibia shaft fragment in burial 223 and the adult female from 222; and slight grey upper limb and rib shaft fragments in the adult ?male from 222. A number of intrinsic or extrinsic factors may affect oxidation of human tissues during cremation (McKinley 1994a, 72-81; 2000). The low level variations noted here indicate only minor deficiencies. The femur has a thick covering of muscle and there may occasionally be incomplete time/fuel for full oxidation. Other areas of the skeleton e.g. the leg or arm, may have been covered by some external materials for part of the cremation process.

The maximum weight of bone recovered represents only *c.*20 per cent of the expected weight of bone from an adult cremation (McKinley 1993). The weights fall within the lower ranges for the period and comparison with that from other (generally larger) contemporaneous cemeteries show the range and average to be closest to those seen in other rural cemeteries generally falling well short of the figures for the towns (Garrard 1987; Anderson 1998; McKinley 2004b table 6.6). This may in part reflect a genuine urban/rural divide, perhaps linked to the influence of the greater numbers found in the urban cemeteries, but it is worth observing that the bone from Westhampnett (McKinley 1997) and Low Borrowbridge (McKinley 1996) was not well preserved, trabecular bone being largely absent from both. The weights from the Romano-British burials are consistently higher than those from the prehistoric burials from the same site, with an average of *c.*388g (McKinley 2004d); a temporal variation probably, at least in part, due to different modes of burial (urned as opposed to unurned).

The maximum bone fragment size was 56-78mm, the majority of the bone (59-79%) being recovered from the 10mm sieve fraction. A

number of factors may affect the size of cremated bone fragments the majority of which are exclusive of any deliberate human action other than that of cremation itself, and there is no evidence to suggest deliberate fragmentation of the bone prior to burial in this instance (McKinley 1994b).

The burials showed a 'normal' distribution of skeletal elements but there was a slightly lower proportion of skull elements than may have been anticipated, particularly from one of the groups of bone from context 222 (McKinley 1997, 69).

Pyre goods, in the form of small quantities (0.5-1.2g) of cremated animal bone were recovered from one burial. The tradition is common within the Romano-British period; the species recovered frequently including domestic fowl and/or goose (McKinley 2004b, 331-332). Small quantities of fuel ash (pyre debris) appear to have been deposited over the burials.

Grave 222 contained the remains of two burials, one made urned and the other unurned, with redeposited pyre debris in the grave fill. The grave had clearly been heavily truncated and it has not been possible to ascertain if the two burials were made together or if one was added to the already existing grave and in what order this may have occurred. Either way, the inclusion of two burials within a single grave is a highly unusual phenomena in the Romano-British period (McKinley 2004b; 2004c). The demographic combinations within this type of grave have been found to include immature individuals with adults, and adults of the same or one of either sex as here. There is evidence to suggest that in some instances the individuals may have been cremated on the same pyre; in some cases the burials were clearly contemporaneous; in other instances the remains from one cremation could have been store above ground for some time before being buried together with the remains from the second cremation (*ibid.*).

#### The Animal Bone *by Lucy Sibun*

Due to the poor preservation conditions on site the excavations produced few animal bones. Very small quantities of fish bone were recovered from a large medieval pit 112 (from Contexts 124, 125).

#### Marine Molluscs *by David Dunkin*

Marine molluscs were recovered from two fills of a medieval pit (Contexts 124 and 125). The assemblage contained five edible species: *Ostrea edulis* (Common oyster); *Cerastoderma edule* (Common Cockle); *Venerupis decussata* (Carpet Shell); *Mytilus edule* (Mussel); *Buccinum undatum* (Common Whelk). Oyster was represented by 321 valves (left and right valves where the umbos were intact).

Cockle was only recovered from Context 124. Eight individuals and over a 1,000 fragments were retrieved. Whelk was also present in Context 124 (2 juvenile individuals.) A quantity of Mussel shell was present in both contexts. Context 124 produced approximately 30 fragments, while Context 125 produced 500+ fragments. A small amount of Carpet Shell was present in Context 124.

Age analysis of the assemblage indicates that approximately 70 per cent of the collected oysters were in the middle to upper range (5-15 years+) of the estimated ages. The majority of those which were less than 5 years in age were of sufficient size to be edible. Therefore virtually all could have been utilised as a food resource.

The number of left to right valves in contexts 124 and 125 (111: 90 and 68: 50 respectively) are within the normal parameters of the disposal of everyday domestic rubbish. The complete absence within the oyster assemblage of infestation by polychaete worms (e.g. *Polydora ciliata*/*P. Hophura*) and the burrowing sponge (*Cliona celata*) strongly suggests that the oyster was collected from healthy colonies and may have come from a farmed context. This is further corroborated by the very low levels of distortion noted in the valves, and the relatively small numbers of adhering shells (the carrying of infants).

It is not possible to identify the source of the oyster. However, the parameters outlined above suggest that they came from healthy and/or farmed colonies. The Thames Estuary and the North Kent coast provide a suitable habitat for oyster beds with a sandy foreshore prevalent across much of the area. There must have been many suitable locations for oyster exploitation close to this site in the early medieval period. The oyster assemblage here represents a secondary food resource. The very small amounts of the other four edible species collected from the Kingsborough Farm site (Cockle; Mussel; Whelk and Carpet Shell) are statistically insignificant and at best can only represent an extremely minor food resource.

#### The Charcoal by Rowena Gale

Bulk soil samples were processed in-house by flotation and sieving using 1mm and 0.5mm meshes. The resulting flots and residues were scanned under low magnification and the charcoal separated from plant macrofossils. The charcoal was degraded and friable, and too fragmented to include intact segments of roundwood. Charcoal fragments measuring >2mm in radial cross-section were considered for species identification.

The samples were prepared using standard methods (Gale and Cutler 2000). The anatomical structures were examined using incident light on a Nikon Labophot-2 compound microscope at magnifications up to x400 and matched to prepared reference slides of modern wood; when possible, the maturity of the wood was assessed (i.e. heartwood/sapwood).



Classification of taxa follows that of *Flora Europaea* (Tutin *et al.* 1964-80). Group names are given when anatomical differences between related genera are too slight to allow secure identification to genus level. These include members of the Pomoideae (*Crataegus*, *Malus*, *Pyrus* and *Sorbus*), Leguminosae (*Ulex* and *Cytisus*) and Salicaceae (*Salix* and *Populus*). When a genus is represented by a single species in the British flora, it is named as the most likely origin of the wood, given the provenance and period, but it should be noted that it is rarely possible to name individual species from wood features and exotic species of trees and shrubs which were introduced to Britain from an early period (Godwin 1956; Mitchell 1974). The anatomical structure of the charcoal was consistent with the following taxa or groups of taxa:

Aquifoliaceae. *Ilex aquifolium* L., holly

Corylaceae. *Corylus avellana* L., hazel

Fagaceae. *Fagus sylvatica* L., beech; *Quercus* sp., oak

Oleaceae. *Fraxinus excelsior* L., ash

Rosaceae. Subfamilies:

Pomoideae, which includes *Crataegus* sp., hawthorn;

*Malus* sp., apple; *Pyrus* sp., pear, *Sorbus* spp., rowan, service tree and whitebeam. These taxa are anatomically similar; one or more taxa may be represented in the charcoal.

Prunoideae. *Prunus spinosa* L., blackthorn.

*Anglo-Saxon*: charcoal collected from ?enclosure ditches (2247 and 2255) included field maple (*Acer campestre*), hazel (*Corylus avellana*), ash (*Fraxinus excelsior*), holly (*Ilex aquifolium*), the hawthorn/ *Sorbus* group (Pomoideae), blackthorn (*Prunus spinosa*) and oak (*Quercus* sp.). Oak fragments indicated slow to fast growth rates. In addition, the upper fill of a relatively large but shallow pit 6084, possibly a sunken-featured building, contained a small amount of degraded oak (*Quercus* sp.) and, possibly, hazel (*Corylus avellana*) charcoal. The feature was dated to cal. AD 430-650 from this material (ref. NZA 22278).

*Medieval* features mainly related to field systems, although pits, post-holes and a large pit were recorded within the confines of the enclosure 56. Degraded charcoal from pit 126 included from oak (*Quercus* sp.), hazel (*Corylus avellana*), beech (*Fagus* sp.) and the hawthorn/ *Sorbus* group (Pomoideae). Largish fragments of fast-grown beech (*Fagus* sp.) charcoal were recovered from pit 112.

The origin of charcoal collected from a small pit 126 and pit 112 is uncertain. The latter included oak, hazel, the hawthorn group and beech. Interestingly, despite the excellent quality of its wood as fuel, beech was

not identified in contexts preceding the medieval period. Beech occurs more frequently on sites in southern Britain in medieval and post-medieval contexts than in earlier periods – perhaps reflecting changes in woodland composition and management at this time. Beech responds to both coppicing and pollarding but perhaps the latter would have been more relevant in the pastoral setting at Kingsborough. Charcoal from the large pit included fast-grown wood characteristic of coppice/ pollard growth.

Alternatively, it is feasible that beech never grew on the island but was imported as fuel from woodland on the mainland. Further up the Thames, the rich woodland reserves of Kent supplied firewood to London during the medieval period (Marren 1992) and it is not inconceivable, given the ease of access by boat, that similar consignments were delivered to Sheppey. Kent has remained one of the most densely wooded counties in southern Britain (Marren 1992).

A large assemblage of charcoal was recovered, although the condition of the material was generally poor. In some contexts the origin of the charcoal is obvious, e.g., cremation burial/ pyre debris, whereas, although less certain for samples collected from ditches and pits, this is attributed as probably domestic waste in the earlier contexts; in the historic period the charcoal could have originated from various sources including agricultural, craft or domestic hearths.

As discussed in the report for the Neolithic enclosures and Bronze Age to Iron Age samples (see Gale, in Allen *et al.* 2008), the earliest pollen profiles indicated a rather open landscape with limited arboreal diversity – trees/shrubs represented by pollen included oak (*Quercus* sp.), lime (*Tilia* sp.), alder (*Alnus glutinosa*), hornbeam (*Carpinus* sp.) and hazel (*Corylus avellana*) (Scaife in Allen *et al.* 2008) The highest value related to hazel although this gradually declined in the upper levels. It is possible that some species, possibly (?coppiced/ pollarded) beech, were brought in and used as firewood in the medieval period (see above). Following a shift in focus to agriculture during the Iron Age, the previous areas of settlement were divided into field systems; agricultural land use continued until the post-medieval period. The origin of associated charcoal, although similar in character to earlier domestic deposits, was more difficult to define.

#### The Charred Plant Remains by Chris Stevens

Fourteen samples were examined for charred plant remains. While relatively few samples from each phase were examined they demonstrated many of the general changes occurring in England between the Late Iron Age to the medieval period, as well as providing information on past agricultural practices characteristic of the region. The samples were processed using standard flotation methods at Wessex Archaeology. Flots

were examined under the microscope, with parts of individual plant species extracted, identified and recorded following Stace (1997). Preservation of charred remains within Late Iron Age and medieval deposits was very good, while those from the Romano-British and Saxon features produced fewer less well preserved remains.

*Late Iron Age/Romano-British periods:* as often the case with charred remains, cereal grains, chaff and weed seeds predominated, although other crop species were present. The Late Iron Age samples provided good evidence for the cultivation of emmer (*Triticum dicocum*) and spelt wheat (*Triticum spelta*) and to a lesser extent, barley. While spelt wheat is the principal Iron Age crop within England (van der Veen and O'Connor 1998), it is notable that emmer continues to dominate or co-dominate assemblages in Kent (Stevens in prep; Campbell and Straker 2003). Such evidence for emmer cultivation is found within other parts of Eastern England (Murphy 1991; 2003), and parts of north-east England (van der Veen 1992). The reasons may be ecological, cultural or a mixture of both. Emmer is often seen as better suited to drier soils and spring sowing (Jones 1981), that the colder climates of Eastern England may have favoured. Alternatively it may be the result of cultural ties with continental tribes who continued to favour the cultivation of emmer wheat alongside spelt (cf. Bakels 1991).

Of some interest were hundreds of flax capsule (*Linum usitatissimum*) fragments from ditch (2480), a recut of one of the driveway ditches, although no seeds were recovered. Flax is cultivated for fibre in linen production and seeds for linseed. In the former, the plant is often harvested before the capsule comes to maturity, although such plants still produce coarse fibres. It is unlikely that the capsule fragments came from immature capsules, more probably they represent the deliberate separation of seed for use as linseed. Like emmer, flax is generally seen as better suited to drier lighter soils.

Weed seeds were uncommon in the samples and few species are ecologically distinct. The presence of seeds of low-growing species, e.g. clover (*Trifolium* sp.), can be taken to indicate crops were harvested by sickle close to the ground. Most samples are rich in glumes and can be related to the discarding of waste upon fires as crops are taken from storage and processed for daily consumption (Stevens 2003). The low-levels of weed seeds and predominance of larger seeded species indicates that hulled wheats were stored relatively clean in the spikelet.

*Anglo-Saxon* samples were generally poor, containing remains of barley and wheat. A single glume and spikelet fork of hulled wheat were recovered, but generally it is free-threshing wheats that are cultivated during this period and such remains may be residual (Greig 1991).

*Medieval* samples provide evidence for the cultivation of hulled barley (*Hordeum vulgare sl*), rye (*Secale cereale*) and free-threshing wheat, of which the hexaploid, bread type wheat (*Triticum aestivum*) could be identified from rachis fragments. Remains of beans (*Vicia faba*) were also recorded and it is probable pea (*Pisum sativum*) is also present. Grains of oats were common in the samples and at least in one case a spikelet could be identified as cultivated oats.

The high numbers of grains and dominance of larger seeded species in post-hole 55 suggests the charring of clean grain possibly arising from the accumulation of waste grain burnt from stores or cooking. The same is generally true of the samples from pits 126 and 114. Pit 112 had higher numbers of smaller seeds, more indicative of waste from fine sieving (cf. Hillman 1981). They included many of stinking mayweed (*Anthemis cotula*) associated with the cultivation of heavier clay soils (Jones 1981), while in contrast a few seeds of sheep's sorrel (*Rumex acetosella*) indicate the cultivation of drier, sandier soils. Given that rye, wheat, barley and possibly pea were also recovered from these same samples, it is probable that the samples derived from crops grown on the different soils, rye and barley favouring lighter drier soils, with free-threshing wheat grown on the heavier clays.

#### The Roman and Early Historic land-use; Fields and Woods

by Michael J. Allen

The archaeological and environmental evidence clearly point to open fields across the ridge from later Iron Age onwards, and which had been established in the earlier Iron, or even later Bronze Age (Allen *et al.* 2008). Woodland had been long cleared, even prior to the Neolithic causewayed enclosures, and this hilltop was largely open countryside from the Neolithic period onwards. The increasing evidence from the Late Iron Age is of droveways, tracks and fields. In the Romano-British period, the latter were cultivated with emmer and spelt. The crop was processed and stored in barns and buildings rather than in pits or the settlement, which have to be sought outside the area of investigation. This would concur with the high concentration of flax and might indicate that it was retted away from the settlement and domestic area. By the medieval period the fields were used for a wider variety of crops: barley, rye, bread wheat, oats, and peas. Perhaps incongruous with the lack of evidence of settlement, this points to the likelihood that cereals were processed and waste grain was discarded near their storage in barns and farm 'out buildings'. Overall, this provides a clear picture in keeping with the archaeological evidence of fields and farming. Scant evidence for the nature of the exploited wood (charcoal) and of the natural woodland from which they were selected, contrasts with that from the prehistoric phases

(Gale, in Allen *et al.* 2008). There is tentative evidence of medieval woodland management and pollarding and coppicing of beech which may or may not have been local to the site.

#### Radiocarbon Dating by Michael J. Allen

Most archaeological features or events were either satisfactorily dated by associated artefacts, or the calibrated radiocarbon results would not improve our chronologies. However, short-lived charcoal (hazel roundwood) was selected from a shallow feature and possible hearth (6084) within the K2 Neolithic enclosure. It was submitted on the assumption that this feature was contemporary with the enclosure. The result is presented in **Table 2** and **Fig. 6**. It has been calibrated with the atmospheric data presented by Stuiver *et al.* (1998) and performed on OxCal ver 3.9 (Bronk Ramsey 1995; 2001), expressed at the 95% confidence level with the end points rounded outwards to 10 years following the form recommended by Mook (1986). The result of  $1498 \pm 35$  BP (NZA-2278) was a surprise and calibrates to cal AD 430-650; a period for which there is little other archaeological evidence on the hilltop. Examination of the probability distribution (Fig. 6) shows that the latter part of the range (i.e. cal AD 535-620) is clearly more probable than the earliest century of the range.

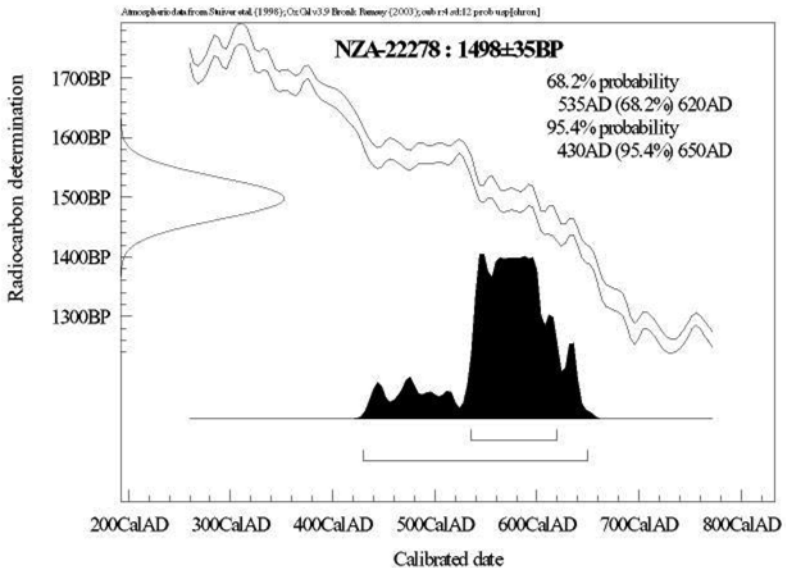


Fig. 6 Radiocarbon probability distribution for the feature 6085.

TABLE 2. RADIOCARBON MEASUREMENT FROM K2

Event	Material	Context	Lab. No.	Radiocarbon Age (BP)	$\delta^{13}\text{C}$ (‰)	Calibrated date range (cal AD) (95% confidence)
Hearth/pit 6084	Charred <i>Corylus avellana</i> roundwood	From hearth 6084, fill 6085	NZA-22278	1498±35	-25.3	AD 430-650

## DISCUSSION

Undoubtedly the discovery of the rare double Neolithic Causewayed Enclosures was the most significant element of the excavations at Kingsborough Farm, and the associated presence of the Late Bronze Age/Early Iron Age enclosures was also of great interest (Allen *et al.* 2008). However, the site did have more to offer, and given the scarcity of published excavations on the Isle of Sheppey, the Late Iron Age, Romano-British, Anglo-Saxon and medieval elements are worthy of comment.

Late Iron Age/Early Romano-British activity at the site, although limited, provided interesting environmental evidence of agricultural practices. The later Romano-British field system(s) with associated ?droveways provide the first published evidence of systematic land division during this period in this part of the Isle of Sheppey. Local entries on the Kent County Council Historic Environment Record are limited to stray coin finds, and a recent excavation at Shrubsoles Hill uncovered only a handful of heavily abraded Romano-British pottery sherds (Coles *et al.* 2003).

The cremation groups are of particular interest, given the paucity of Romano-British material previously recovered from this end of the Isle of Sheppey, or from the island in general, and for the unusual nature of the 'double' cremation (Burial 222). Other second-century cremation burials have been discovered at the opposite end of the island (Mills 1969), and closer to the site (Wessex Archaeology 2006) hinting at more widespread activity on Sheppey at this time.

The cremation burials offer direct evidence of ritual utilisation continuing, however indirectly, the ceremonial element of the site represented by the Causewayed Enclosures and Bronze Age cremations (Allen *et al.* 2008). They are also a clear indication of the presence of settlement of some kind in this part of the island, which, allied with the survival of remains of fields and possible droveways, perhaps suggests the location of a Romano-British farmstead in the immediate vicinity.

The recovery of Anglo-Saxon pottery from a number of features also points to local occupation at that time, and one possible sunken-featured building (SFB) has been identified, on the edge of a clay valley in the

north-west of the site. There is also clear archaeological evidence for Anglo-Saxon settlement in the vicinity, as the remains of at least one SFB was located during excavations at Shrubsoles Hill (Coles *et al.* 2003). Unfortunately no evidence of larger domestic buildings often associated with these structures was uncovered (*cf.* Bell 1977, Hamerow 1993), but nevertheless the presence of the SFB(s) is a clear indication of settlement. There is also the intriguing possibility that an early Anglo-Saxon cemetery survives somewhere in the Shrubsoles/Kingsborough area, given the regular juxtaposition of such burial remains with Early Anglo-Saxon occupation sites (Arnold 1997, 54).

The medieval features encountered at Kingsborough are similar in date to those found at Shrubsoles Hill (Coles *et al.* 2003) and relate to agricultural activity in this part of Sheppey in the twelfth and thirteenth centuries. Norwood Manor, close to Shrubsoles Hill, is known to have been a medieval Manor House and Courthouse, but unfortunately results of excavations at the manor have not been published (Simon Mason, Kent County Council *pers. comm.*). Saltmaking mounds have been identified in the vicinity of the manor (Coles *et al.* 2003, 5) suggesting salt manufacture as an additional 'industrial' activity in the general area of the Kingsborough site.

The large-scale excavations at Kingsborough uncovered the remains of various elements of prehistoric and historic Sheppey, incorporating evidence of grandiose Neolithic ceremonial activity and Bronze Age, Iron Age and Romano-British funerary rituals, all set within a landscape with clear evidence of 'everyday' farming activity dating back as far as the Bronze Age, which continued through until the post-medieval period. Perhaps there is a certain irony that despite the impressive quality and quantity of the archaeological evidence, the first unequivocally permanent habitation within the boundaries of the site dates from the redevelopment work of the late twentieth and early twenty-first centuries.

#### ACKNOWLEDGEMENTS

The author would like to thank all those who worked at the site for Archaeology South-East, often under trying circumstances, namely Stuart Ashworth, Greg Bell, Gary Bishop, Dave Dunkin, Fiona Griffin, Neil Griffin, Sharon Hall, Richard Hoyle, Richard James, Jane Mann, Lee Martin, Pierre Mienie, Mark Ornstein, Alexis Over, Ben Price, Justin Russell, Peter Scutt and David Yates.

The team from Wessex Archaeology included Catherine McHarg, John Powel, Elina Brook, Lucy Smith, Mark Ingram, Rowan McAlley and Jane Roberts, Susan Clelland, Fiona Edwards, Chris Penney, Mark Peters, Dan Bashford, Chris Richardson and Phil Chevasse. Doug Murphy assisted with survey.

Thanks are also due to all of the specialists whose work is included in this report and to Justin Russell, Fiona Griffin and Elizabeth James who prepared the illustrations, and to Michael J. Allen, Jörn Schuster and Louise Rayner who made useful additions to drafts of the text. The input of Simon Mason and Liz Dyson, Archaeological Officer, Kent County Council, is also gratefully acknowledged.

Ian Greig managed the fieldwork phase of the project for Archaeology South-East, and Luke Barber and Louise Rayner oversaw the post-excavation elements. For Wessex Archaeology field work was managed by Paul McCulloch and Richard Greatorex, and Jörn Schuster was responsible for post-excavation management in the later stages. Chris Ellis (Wessex Archaeology) kindly drew the author's attention to the recent discovery of further Roman cremations on the island. The project was funded by Jones Homes (Southern) Ltd.

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