PREHISTORIC ACTIVITY AT WESTWOOD, BROADSTAIRS

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Between July and September 2005 Oxford Archaeology (OA) carried out an excavation at land to the east of Tesco Extra, Margate Road, Westwood, Broadstairs (NGR TR 370 677) for CgMs Consulting on behalf of Spenhill Developments (**Fig. 1**). The work was carried out in respect of a planning application for a retail park and access road. Four phases of activity were revealed. A cluster of early Neolithic pits occurred in the southern part of the excavated area, producing pottery and worked flint. This pit cluster was overlain by a later Bronze Age field system, extending across most of the site. Subsequent activity consisted of a single ditch belonging to the late Iron Age, and part of a rectilinear enclosure system of possible medieval date. Undated features included a cremation burial and two posthole alignments. The site lies at *c.*50m OD, on land sloping down gently to the north. The geology consists of Upper Chalk with isolated outcrops of the Thanet Beds, overlain by Brickearth/Head material.

Previous evidence for prehistoric activity in the area had been obtained by excavations at Thanet Reach Business Park, immediately to the east of the site. This work revealed possible Mesolithic pits, Neolithic/early Bronze Age pits, postholes and ditches, and evidence for middle to late Bronze Age occupation, including pottery and a socketed bronze chisel. Two unurned cremation burials of uncertain date were also found (Perkins 1998; 1999).

The site itself was subject to an archaeological evaluation by OA in September 2004 (OA 2004). A total of 79 trenches were excavated across an area of 11ha. Archaeological features provisionally dated to the Neolithic were encountered in eight of the trenches, most of which were located in the north-eastern part of the evaluation area. Following discussions with the Archaeological Officer of Kent County Council, it was agreed that this area would be targeted for excavation.

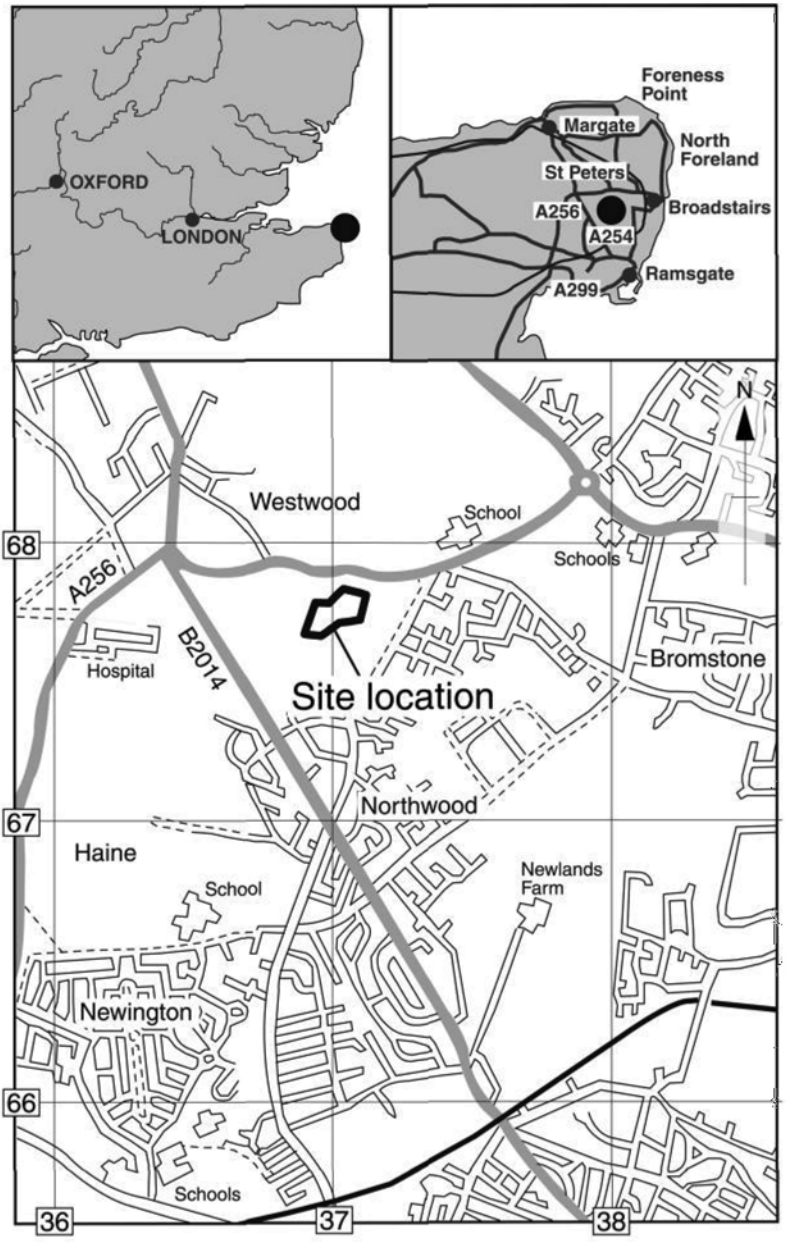

Fig. 1 Site Location.

Following completion of the excavation, a small penannular gold ring (7mm internal diameter) was recovered from the development area by a metal detectorist, although the precise location of the findspot in relation to the excavated features is unfortunately unknown. The ring is decorated with rows of pointillé dots and oblique strokes, and is datable to *c.*1150-750 BC (Varndell 2005).

SITE SEQUENCE

Stripping of the site showed that the archaeological deposits were overlain by 0.70-0.80m of overburden, consisting of the modern topsoil and a buried ploughsoil of probable medieval date. Plough damage had clearly caused significant truncation of the archaeological features.

Phasing of features was hindered by the low density of datable finds recovered, and issues of artefact residuality. Furthermore, similarities in the fills of many of the features meant that few clear stratigraphic relationships could be discerned. As a result, the phasing presented in this report is somewhat tentative. Four phases of activity have been identified, as described below.

Phase 1: Early Neolithic

A concentration of 48 sub-circular pits occurred in the southern part of the site, 23 of which were excavated (**Fig. 2**). Finds were mostly limited to worked flint, although four of the pits also produced small amounts of early Neolithic pottery. Metrical analysis of the flintwork from the pits produced results consistent with an early Neolithic date (see Devaney below). Two of the excavated pits (1092 and 1412) (**Fig. 3**) and a further two unexcavated examples were cut by ditches tentatively dated to the later Bronze Age, further supporting their Neolithic attribution.

The excavated pits ranged from 0.28-2.50m in diameter and 0.05-0.92m in depth. Most had a bowl-shaped profile and a single silty fill, which was often dark and ashy. Micromorphological analysis of one of these fills (pit 1092) suggested that it comprised an ash-rich dump (see Macphail and Crowther report below). Environmental samples from the pits produced charcoal but no other significant charred plant remains (see Pelling report below).

The only feature to contain a significant assemblage of finds was pit 1524. This measured 0.80m in diameter and 0.66m deep, and had a particularly dark, ashy fill. It contained 313g of pottery and 78 pieces of worked flint (see below). Small amounts of pottery were also found in pits 1421, 1465 and 1471. Pit 1421 was located close to the western limit of excavation. It was a very shallow, concave feature, measuring 0.95m in diameter and 0.05m deep. The fill of pale silty sand yielded

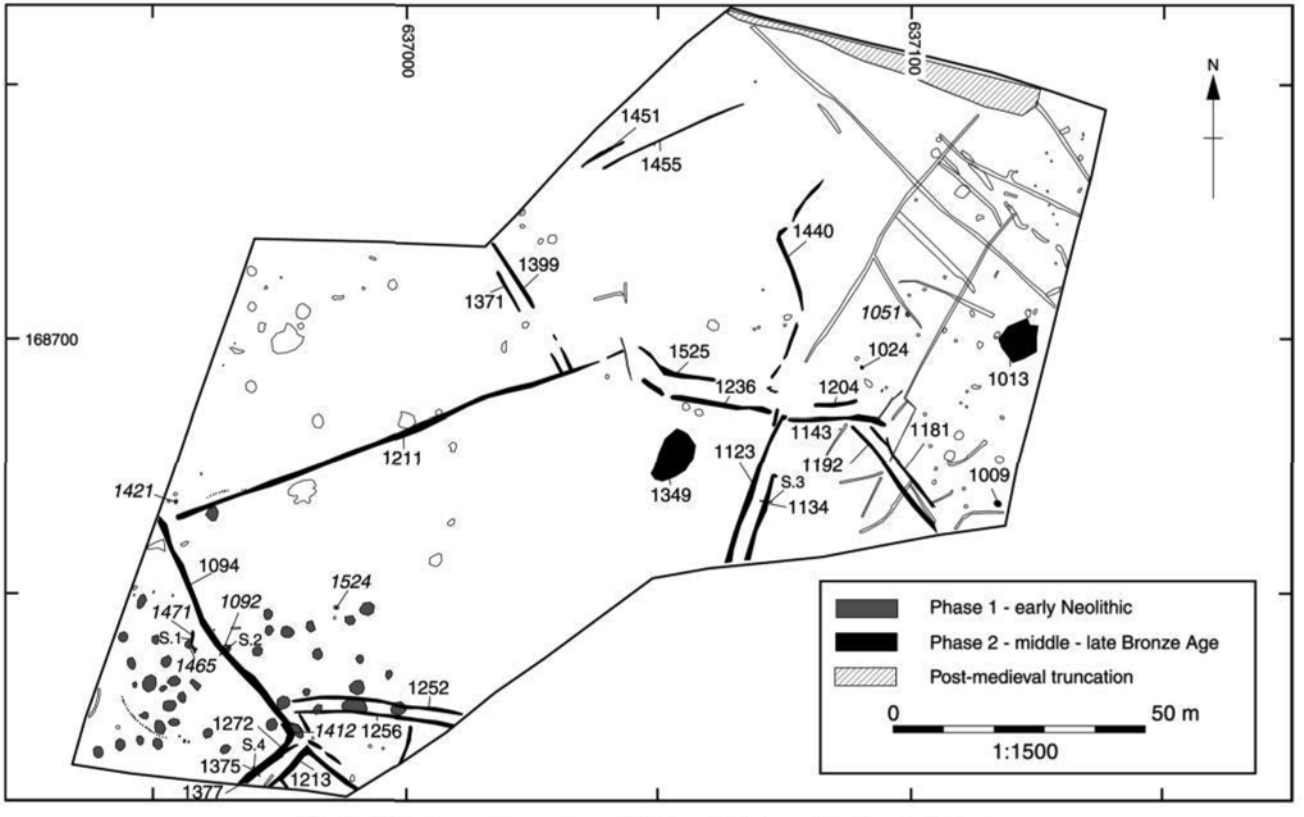

Fig. 2 Site Plan – Phases 1 and 2 (Phase 1 features labelled in italics).

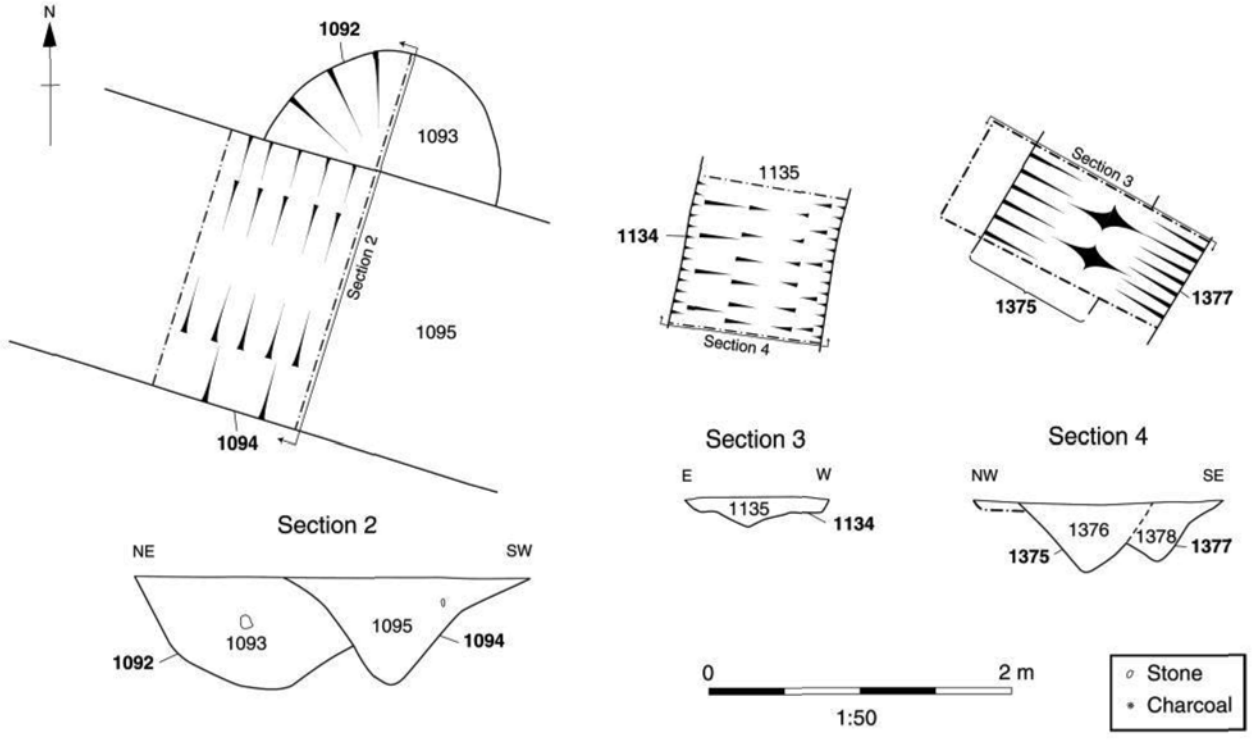

Fig. 58 Plan and sections of Neolithic pit 1092 and Bronze Age ditch 1094; Bronze Age ditch 1134; and Bronze Age ditch 1272 (cuts 1375 and 1377).

a 'Mildenhall' type decorated rim. A short distance to the south-east, features 1465 and 1471 formed part of a complex of four inter-cutting pits (**Fig. 4**), along with 1463 and 1472. These pits were all oval in form, measuring 0.50-1.30m in diameter and 0.17-0.68m deep.

There was much less evidence for Neolithic activity in the northern part of the site, but a sherd of possible early Neolithic pottery was recovered from one small pit (1051) cut by a possible medieval ditch. This feature was 0.16 m deep with a single silt fill.

Phase 2: Middle-late Bronze Age

A system of linear ditches extending across most of the site post-dated the Neolithic occupation (Fig. 2). Datable finds from the ditches were very sparse, but small amounts of middle-late Bronze Age pottery were recovered from ditches 1094 and 1134. In addition, two semi-complete middle-late Bronze Age pots were recovered from the upper fill of ditch 1211. These could, of course, have been deposited long after the ditches were first created; however, a later Bronze Age date for the field system as a whole would tally with the extensive evidence for land division in this period elsewhere in Thanet and north-east Kent (see *Discussion* below).

Ditch 1211 was 94m long and followed a north-east/south-west alignment, and contained naturally deposited fills produced through silting and erosion. The two vessels (see Edwards report below) were found standing upright, directly adjacent to each other, 4m from the south-western terminus of the ditch. Whether the vessels had simply been placed within the upper fill of the ditch, or within small pits dug into this fill, was unfortunately unclear. The vessels were close to the surface and had been truncated by ploughing. One small piece of burnt bone was recovered from the fill of vessel 1107, but it is not certain whether this is human or animal. There is therefore no evidence to suggest that the two vessels were cremation urns.

Double-ditched boundary feature 1371/1399 ran off at right angles from the northern side of ditch 1211, and was presumably contemporary. Several similar double-ditched boundaries – each formed of parallel linears around 1.5-2.0m apart – were found across the site, and seem likely to belong to the same system (1123/1134, 1143/1204, 1181/1192, 1213/1272, 1236/1525, 1252/1256, and 1451/1455). These double ditches may have bounded a bank or hedge; similar features are frequently seen in later Bronze Age field systems in South-East England (Pryor 2001; Yates 2001). Irregular, segmented ditch 1440 has also been tentatively ascribed to this phase, although an association with the late Iron Age or medieval activity cannot be ruled out.

The field system was essentially rectilinear in form, although it became more irregular towards the eastern part of the site. The individual fields or

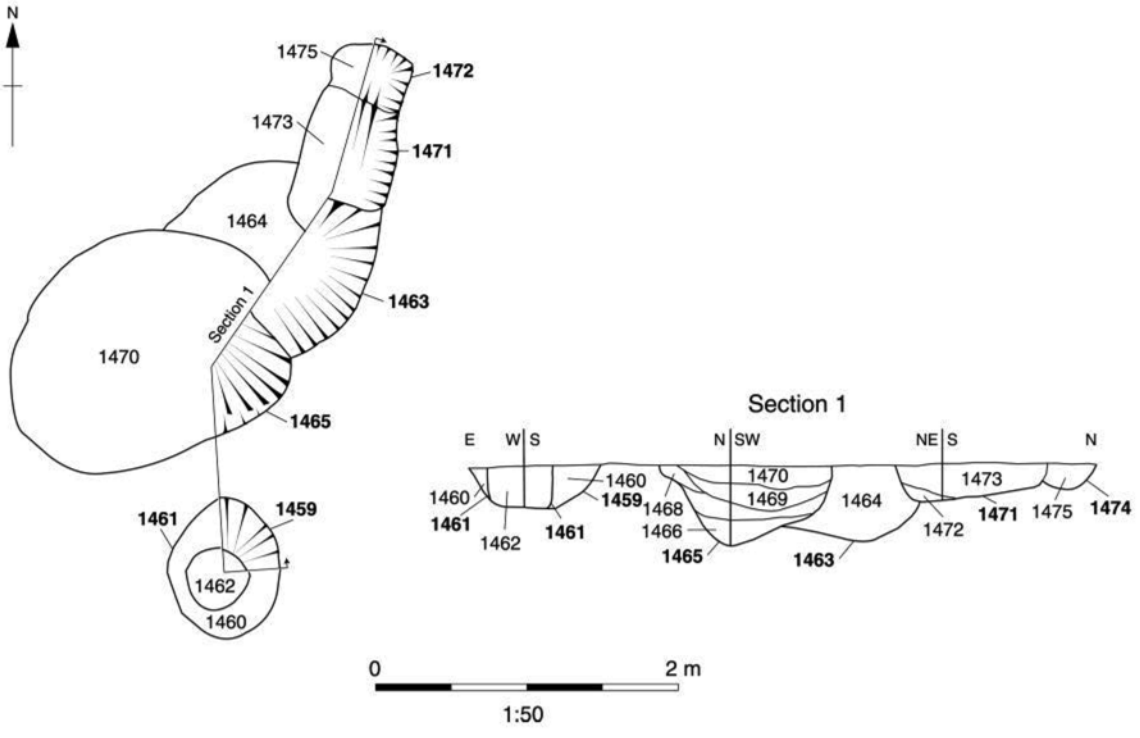

Fig. 4 Plan and section of Neolithic pit group.

enclosures seem to have been of variable size and shape, measuring up to 120m across. Some of the fields appear to have had corner entranceways, most clearly seen in the 2.5m gap between ditches 1094 and 1211. There was no stratigraphic evidence for development of this double-ditched system over time, although ditch 1272 had been recut at some point (Fig. 3). The individual ditches had V- or U-shaped profiles, and ranged from 0.26-1.16m wide and 0.14-0.65m deep, becoming shallower in the eastern half of the site. The ditch fills invariably consisted of pale, naturally-deposited silts. Other than pottery, the only finds were moderate amounts of worked flint.

Three pits in the eastern part of the site produced later Bronze Age pottery and may be associated with the field system. By far the largest was pit 1349, which measured 11.00 x 6.50m in size, and up to 1.00m deep. It contained two fills of silty clay, and may have served as a pond or waterhole. The other two pits, 1009 and 1024, were much smaller, concave features with dark silty fills.

Shallow hollow 1013 also produced later Bronze Age pottery, although this was associated with a few sherds that could possibly date to the early-middle Iron Age. This feature measured 9.00m in diameter and up to 0.34m deep, with a mottled fill that appears to have been subject to trampling (see Macphail and Crowther report below). Aside from pottery, a few cattle tooth fragments were recovered, representing the only identifiable faunal remains from the site.

Phase 3: Late Iron Age

Activity during this phase took the form of segmented, curvilinear ditch 1501, which ran for 30m on a north-west/south-east alignment, continuing beyond the eastern limit of excavation (**Fig. 5**). This ditch was 0.38 m deep, with a U-shaped profile and a single fill of sandy silt. A small amount of 'Belgic' pottery was recovered, and a sample taken from the ditch produced abundant evidence for cereal processing (see Pelling report below).

Phase 4: Medieval period?

The late Iron Age ditch was subsequently overlain by a rectilinear enclosure system. This was structured around parallel north-east/south-west aligned ditches 1180 and 1185, placed 19m apart; further linears (1047, 1049 and 1189) ran perpendicularly between these ditches to form small rectangular compounds (Fig. 5). The individual ditches were up to 0.24m deep with U-shaped or flat-based cuts, and all contained naturally-deposited, pale, silty fills. A single sherd of Tyler Hill pottery (twelfth- to fourteenth-century) was recovered from the fill of ditch

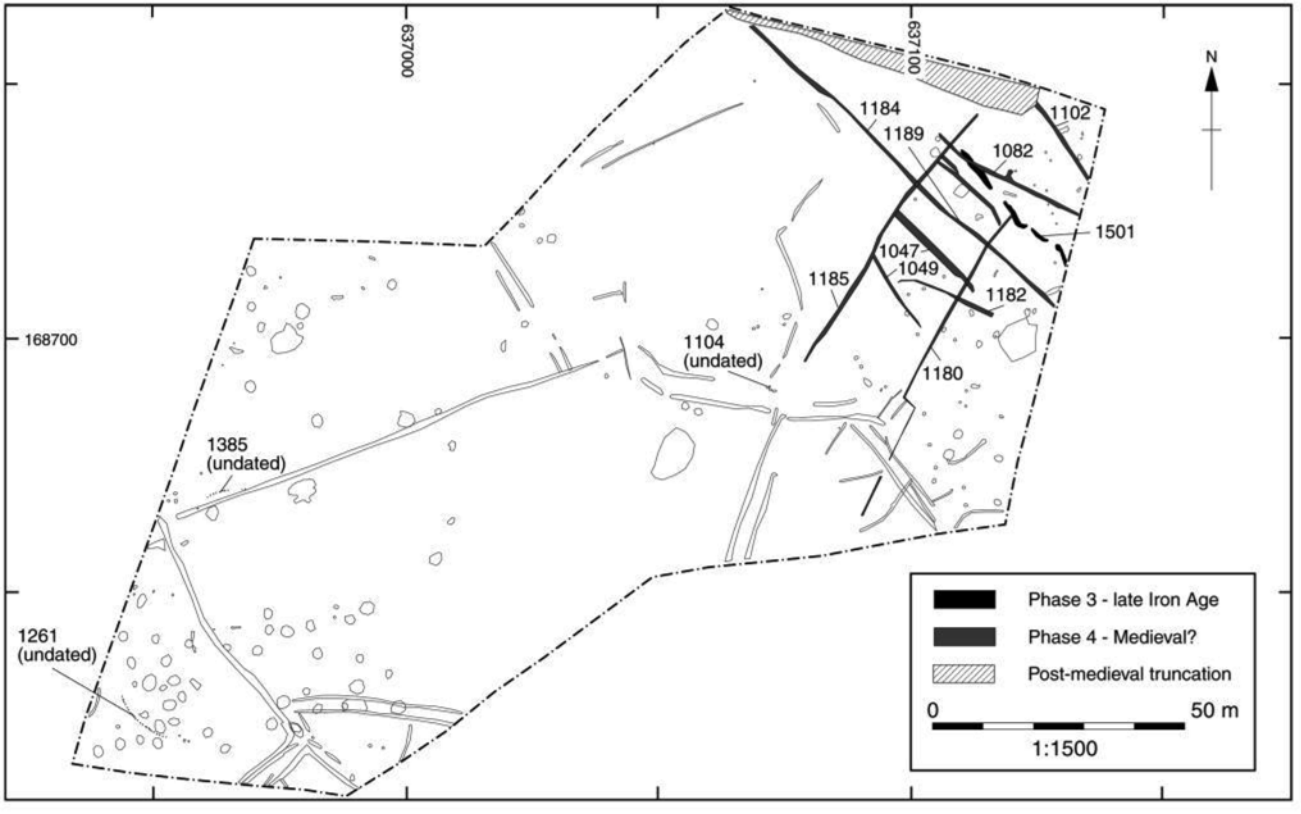

Fig. 5 Site Plan – Phases 3 and 4.

PLATE I

Posthole alignment 1261, facing south. Scale 1 metre

1180. No other datable finds were recovered from this system, and so the suggested medieval date must be regarded with caution. No stratigraphic relationships could be observed between the Phase 4 ditches and the Bronze Age field system.

Undated features

A single un-urned and unaccompanied cremation burial (1104) was found in the central area of the site (Fig. 5). This was severely truncated, measuring 0.34m in diameter and only 0.05m deep. The remains belonged to an adult of undetermined sex (see Geber below).

Two curvilinear posthole alignments in the southern part of the excavated area also yielded no finds (Fig. 5). The larger of the two alignments (1261; **Plate I**) was at least 19m long, consisting of 30 postholes which ranged from 0.18-0.30m in diameter and from 0.03-0.14m deep. All had concave profiles and an identical fill of dark grey sandy silt. No post-pipes were apparent. Two of the postholes cut an unexcavated pit, which is tentatively ascribed to the early Neolithic occupation in the area. Lying 40m to the north of 1261 was a second posthole alignment (1385). This was 4.5 m long and consisted of eight postholes. The individual postholes ranged from 0.11-0.20m in diameter and 0.08-0.20m deep. They all had a flat-based profile and a single fill of yellow-brown silty sand. The alignment was placed approximately parallel to Phase 2 ditch 1211, immediately to the south, although no relationship between the two could be demonstrated.

FINDS

Flint *by Rebecca Devaney with Philippa Bradley*

A total of 681 pieces of worked flint and 25 fragments (367g) of burnt unworked flint were recovered from the evaluation and excavation (**Table 1**). The assemblage can be divided into three distinct groups, based on its context and the technological characteristics of the material itself. Early Neolithic flint was recovered from the pits in the southern part of the site, and middle to late Bronze Age flint from the Bronze Age field system. However, nearly two-thirds of the assemblage was recovered from later and undated contexts and is therefore likely to be residual. This material is technologically similar to that seen in the Bronze Age features and is therefore likely to be broadly contemporary with the field system.

Where identifiable, the predominant raw material is gravel flint. In general, these pieces have a thin and abraded cortex. These nodules are likely to be locally derived, and the site's proximity to the sea may indicate the utilisation of beach pebbles. A few chalk-derived flints,

TABLE 1. SUMMARY OF WORKED FLINT BY TYPE

[illegible] Category	Phase 1	Phase 2	Other	Total
[illegible]e	54	109	325	488
Blade	6	7	6	19
Blade-like flake	8		2	10
Bladelet	1	1	1	3
Irregular waste	1	5	12	18
Rejuvenation flake core face/edge	2			2
Chip	26	11	46	83
Single platform flake core		1	4	5
Multiplatform flake core	1	5	8	14
Core on a flake			1	1
Unclassifiable/fragmentary core		1	5	6
Tested nodule/bashed lump			3	3
End and side scraper		2	4	6
End scraper		2	3	5
Side scraper		2	1	3
Disc scraper		1	1	2
Leaf-shaped arrowhead		1		1
Knife		1		1
Retouched flake			7	7
Serrated flake	1		2	3
Miscellaneous retouch			1	1
Total	100	149	432	681

identified by a thick white cortex, were also present. The site is located on chalk bedrock and these pieces are therefore also likely to be locally derived. The assemblage includes over 40 pieces (7 per cent) of Bullhead flint. This is found in the Bullhead Bed and is identified by a green cortex with an underlying orange-coloured band. In north Kent the Bullhead Bed overlies the chalk beneath the Thanet sands (Dewey and Bromehead 1921, 18; Shepherd 1972, 114) and runs to the south of Broadstairs. However, a few small outliers of the Thanet sands are located just to the west of the town and appear to be the closest possible source of Bullhead flint.

The flint assigned to the *early Neolithic* comprises 15 per cent of the assemblage. It was mainly recovered from a series of pits and, in some cases, was associated with early Neolithic pottery. As expected, the assemblage is dominated by unretouched debitage (98 per cent). Of this total, 54 pieces are flakes and 15 are blades, blade-like flakes and bladelets (Table 1). This proportion (22 per cent blades) is quite high

TABLE 2. SUMMARY OF THE WORKED FLINT FROM EARLY NEOLITHIC PIT 1524

Flint Category	No.
Flake	37
Blade	2
Blade-like flake	8
Bladelet	1
Irregular waste	1
Rejuvenation flake core face/edge	2
Chip	26
Multiplatform flake core	1
Serrated flake	1
Total	78

and well within the range suggested for an assemblage of this date (Ford 1987, 79, table 2).

The material from two early Neolithic pits (1092 and 1524, a sample of 53 pieces) was subject to metrical and technological analysis (**Table 2**). However, due to the high instance of breaks, the length and breadth of only 31 pieces was actually measured. The ratio between the length and breadth was calculated. Although nearly half the pieces show a low ratio of less than 1.6, which represents short, squat flakes, a significant proportion (35 per cent) of the sample has a ratio of more than 2.1, which refers to blades. This proportion is higher than that achieved through typological analysis of the whole assemblage and again supports the suggested dating (*Ibid.*).

The high instance of broken pieces also affected the number of pieces that could be subjected to technological analysis. Over one third of the sample had proximal breaks and so only 34 pieces were examined for butt type, hammer mode and the presence of platform edge abrasion, characteristics present on the proximal end of the flake. Similarly, due to breaks at the distal end, only 47 pieces were examined for termination type. In general, the material from the selected contexts is typical of an early Neolithic flint assemblage. A total of 18 per cent of the sample exhibits platform edge abrasion, a characteristic which is usually associated with the more careful and planned knapping seen in the early Neolithic. Similarly, over a third of the assessed pieces exhibit dorsal blade scars, a technological characteristic suggesting removal from a planned blade core, which is consistent with the similar proportion of blades show by metrical analysis. On the other hand, evidence for the use of soft hammers (such as antler), also a characteristic of early Neolithic knapping, and demonstrated by lipped and diffuse bulbs of percussion (e.g. Onhuma

and Bergman 1982, 163) was not seen. However, it is recognised that distinguishing hard and soft hammer struck pieces is difficult and the lack of pieces identified as being struck by a soft hammer does not invalidate the suggested dating. In fact, of the 34 pieces examined, 29 (85 per cent) were recorded as being of indeterminate hammer mode (the rest being hard hammer struck). Nevertheless, characteristics often associated with soft hammer knapping, such as platform edge abrasion and punctiform and linear butts were seen in the assemblage and may suggest that pieces struck by soft hammer were simply not recognised.

An examination of butt type reveals that, whilst plain butts were the most common, punctiform, cortical and linear butts are also well represented (**Table 3**). Interestingly, of the seven pieces with punctiform butts (that is those butts that are tiny in comparison to the width of the rest of the removal), four also exhibited dorsal blade scars, regardless of whether the piece was a blade or flake. This suggests a link between the use of the knapping action employed to create pieces with punctiform butts and the production of pieces from prepared blade cores.

TABLE 3. PROPORTIONS OF BUTT TYPES SEEN IN THE EARLY NEOLITHIC AND LATER BRONZE AGE ASSEMBLAGES

	Phase 1		Phase 2	
Butt type	Count	Per cent	Count	Per cent
Plain	14	41	17	36
Cortical	6	18	10	21
Linear	4	12	9	19
Punctiform	7	21	4	9
>1 Removal	2	6	5	11
Other	1	3	2	4
Total	34	100	47	100

The results of the assessment of termination type indicate that the majority of pieces displayed a feather termination (**Table 4**). Hinge, plunging and step terminations, which are usually associated with less skilled knapping, were present, but only in small numbers. The majority of assessed pieces are secondary removals (58 per cent), that is pieces that exhibit the scars of previous removals on the dorsal surface but still retain some dorsal cortex. In contrast, only one primary flake (a removal whose dorsal surface is entirely cortical) was recovered. The remaining 40 per cent are tertiary flakes (those with no remaining dorsal cortex).

The core, recovered from pit 1524, is minimally worked with a few large flake removals taken from more than one platform. At 136g, it is

TABLE 4. PROPORTIONS OF TERMINATION TYPES SEEN IN THE EARLY NEOLITHIC AND LATER BRONZE AGE ASSEMBLAGES

	Phase 1		Phase 2	
Termination type	Count	Per cent	Count	Per cent
Feather	32	68	22	50
Hinge	5	11	10	23
Plunging	5	11	6	14
Step	2	4	6	14
Other	3	6	0	0
Total	47	100	44	100

of medium size. The serrated flake, also from pit 1524, was the only retouched piece to be recovered from the early Neolithic contexts. The flake has fine serrations along both lateral edges and has been broken at the proximal end (**Fig. 6**, no. 1). Serrated flakes and blades are common finds in early Neolithic pits, for example those from Saltwood Tunnel in east Kent (Devaney forthcoming).

A total of 149 pieces of worked flint were recovered from contexts dating to the *middle to late Bronze Age* (Table 1), comprising 22 per cent of the assemblage. Like the early Neolithic assemblage, unretouched debitage dominates (133 pieces, 89 per cent). This includes only a small proportion (7 per cent, excluding irregular waste and chips) of blades, which confirms the suggested dating (Ford 1987, 79, table 2).

The material from 12 contexts (55 pieces) was subject to metrical and technological analysis. Like the early Neolithic material, the high instance of breaks meant that only 37 pieces were measured. Over 75 per cent of the sample comprised short, squat flakes (ratio < 1.6), supporting the suggested Bronze Age date. However, somewhat surprisingly, a relatively high proportion of pieces with a ratio of more than 2.1 were also present. It is therefore possible that the assemblage incorporates some material that derives from earlier industries. Many of the blades do not have technological characteristics consistent with an earlier industry though, and so appear to be later in date, possibly being unplanned blade removals from otherwise flake-based cores.

Only 47 pieces had complete proximal ends and just 44 had complete distal ends, so the number of pieces that could be examined for technological characteristics was again limited. In general, the material from the selected contexts is typical of a Bronze Age flint assemblage, but also suggests the inclusion of some earlier material. A total of 12 per cent of the sample exhibits platform edge abrasion, a figure which is

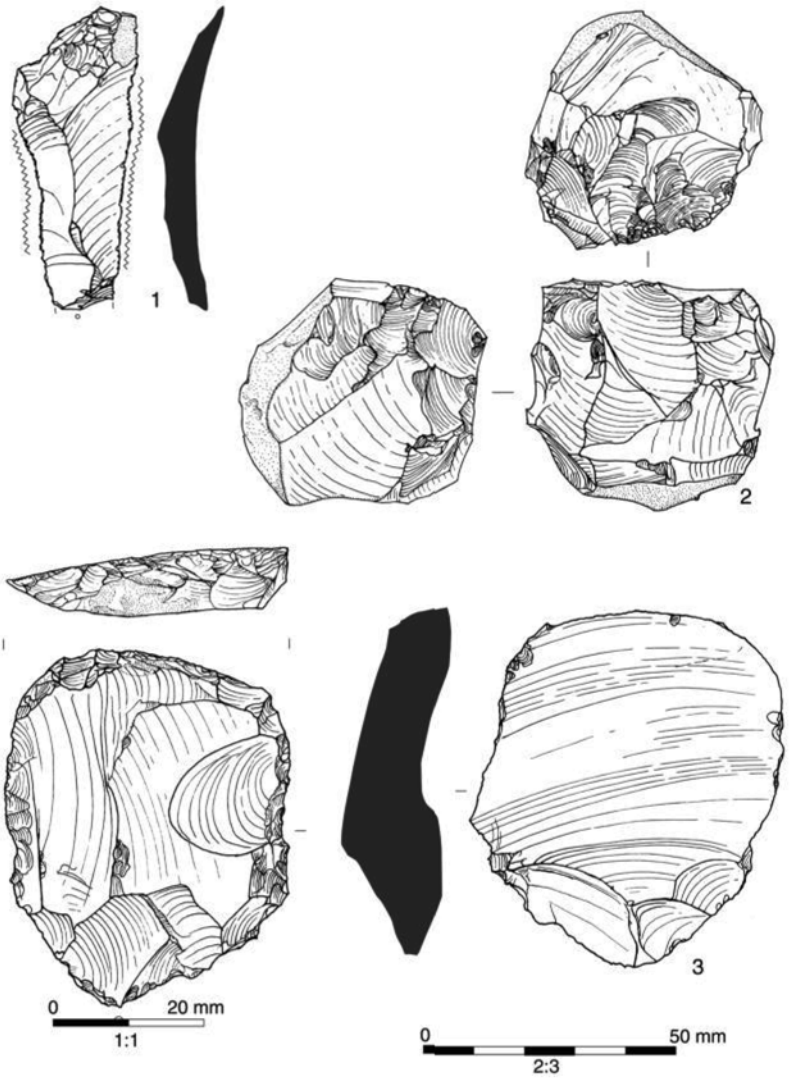

Fig. 6 Flints 1-3. 1. Pit 1524, ctx 2704. Serrated flake. Proximal break, fine serrations on both lateral edges. Early Neolithic; 2. Ditch 1211, ctx 1221. Multiplatform flake core. Small flake removals from many platforms, cortical base, 122g. Bronze Age; 3. Pit 1024, ctx 1025. End and side scraper. Direct retouch on distal end and sides, inverse retouch on proximal end to thin the bulb. Bronze Age.

not much lower than the 18 per cent seen in the early Neolithic material. However, in contrast to the high proportion of pieces with dorsal blade scars seen in the earlier assemblage, only 11 per cent of the Bronze Age sample displayed this characteristic. In keeping with the technological characteristics discussed so far, the use of hard hammer percussion (witnessed in the form of clear points of percussion and pronounced cones of percussion and ventral ripples; Onhuma and Bergman 1982, 163) was recognised on 21 per cent of the sample, with the majority (77 per cent) being indeterminate and a small number (2 per cent) being soft hammer struck. The varying proportions of flake types present in the sample of Bronze Age material was very similar to that seen in the early Neolithic sample. The majority of assessed pieces are secondary removals (60 per cent) with just over a third (36 per cent) being tertiary flakes. Just two pieces are primary removals.

Like the earlier assemblage, plain butts were the most common butt type seen in the Bronze Age assemblage. However, the proportions of other butt types were higher and more varied (Table 3). Unlike the earlier assemblage, though, there was no association between the presence of punctiform butts and dorsal blade scars. With regard to termination type, the number of feather terminations is lower than that seen in the early Neolithic material. Correspondingly, the proportions of hinge, plunging and step terminations, which are associated with poorer knapping skills, were higher than that seen in the earlier assemblage and gives credence to the suggestion that the two assemblages are indeed separate.

Seven cores were recovered from the Bronze Age contexts. All were utilised for the production of flakes as opposed to blades, which is consistent with the unretouched debitage and supports the suggested dating. The single platform flake core was minimally worked along one side and on the whole, the multiplatform flake cores (Fig. 6, no. 2) and the unclassifiable/fragmentary core were irregularly reduced. The size of the cores ranged from 51g to 240g, with the unclassifiable/fragmentary core being the smallest.

The retouched element of the assemblage consists of nine pieces and is dominated by scrapers (seven pieces). The end and side scraper from pit 1024 is unusual, as its bulb has been thinned (Fig. 6, no. 3). The scrapers are not in themselves chronologically diagnostic, but many are quite crude, which is consistent with a Bronze Age date. The leaf-shaped arrowhead, recovered from ditch 1213, is quite small, measuring 28 mm long, 17 mm wide and 4 mm thick (**Fig. 7**, no. 4). Irregular retouch almost entirely covers both surfaces. The delicate tip is intact, but damage has occurred on one of the edges. Leaf-shaped arrowheads can be broadly dated to the early Neolithic (Green 1984, 19), so this piece is likely to be residual. Its presence in the Bronze Age assemblage therefore supports the suggestion of some degree of post-depositional mixing, as suggested

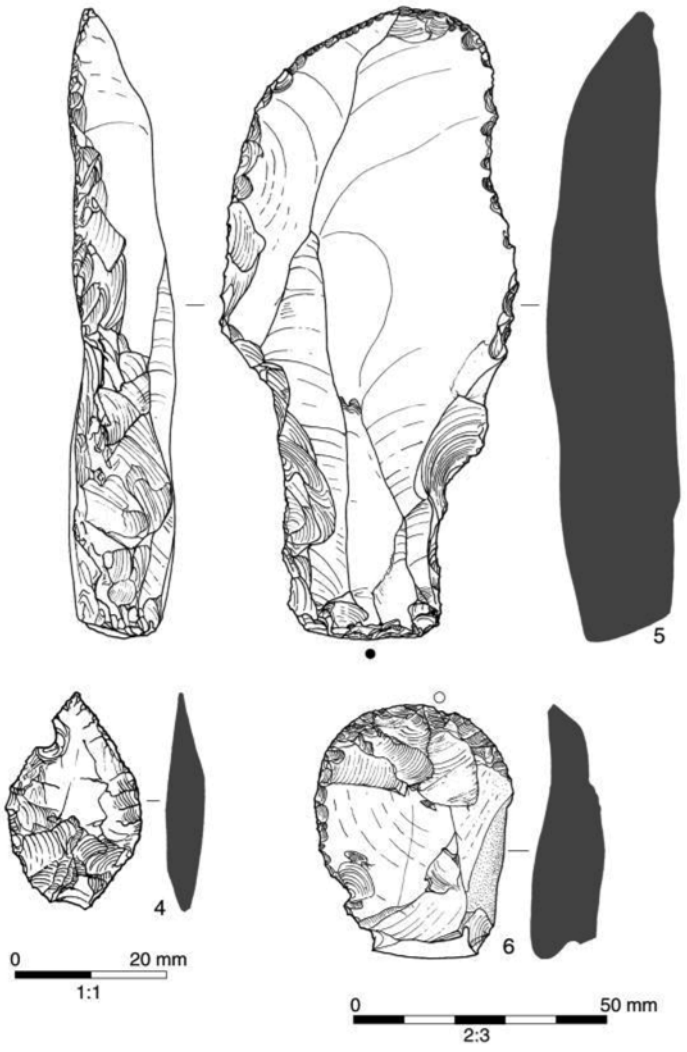

Fig. 7 Flints 4-6. 4. Ditch 1213, ctx 1251. Leaf-shaped arrowhead. Irregular retouch covers both surfaces, intact tip, but damage just below. Early Neolithic (residual in Bronze Age ditch); 5. Ditch 1213, ctx 1250. Knife. Large flake, platform edge abrasion, abrupt direct retouch narrows proximal end, thinned bulb, probably hafted, heavily used. Early Bronze Age? 6. Ditch 1049, ctx 1050. End and side scraper. Direct retouch on proximal end and sides, hinge termination. Bronze Age.

by the technological analysis. The probable knife, also from ditch 1213, is very unusual (Fig. 7, no. 5). The proximal end of a large flake has been thinned (both the edges and the bulb of percussion) to facilitate hafting and the distal end exhibits heavy usewear and edge rounding. The piece is tentatively dated to the early Bronze Age. The lack of informally retouched pieces, such as retouched flakes and blades, is unusual.

The *rest of the assemblage*, a total of 432 pieces, was recovered from post-Bronze Age contexts or was unstratified. On the whole, this material is consistent with the flint recovered from the Bronze Age contexts and is likely to be part of the same assemblage, having been incorporated into later contexts by post-depositional disturbance. Although the presence of Iron Age flint working is now well recognised (Young and Humphrey 1999), the features that characterise this industry were not seen.

The flint has been divided into three assemblages based on context. The use of metrical analysis has shown that the flint from the early Neolithic and middle to late Bronze Age contexts is likely to derive from two separate industries, the key difference being the relatively high proportion of narrow blade removals (those with a length/breadth ratio of over 2.1) in the early Neolithic and the clear predominance of short, squat flakes in the Bronze Age. Similarly, the assemblages can be distinguished on technological grounds. Characteristics associated with careful and planned reduction strategies such as platform edge abrasion and punctiform butts and an emphasis on blade production (as seen in the number of blade removals and the presence of dorsal blade scars on all types of debitage) were more commonly seen in the early Neolithic assemblage.

On the other hand, the proportions of flake types is roughly similar in the early Neolithic and Bronze Age assemblages and may indicate some continuity in raw material acquisition and reduction between the two industries. The lack of primary flakes and predominance of secondary flakes suggests that flint nodules may have been roughly decorticated before being brought onto the site for further reduction.

The lack of flint specifically assigned to the late Neolithic or early Bronze Age, apart from the unusual knife, does not necessarily suggest a hiatus in activity. It may be that flint from this period has been incorporated in the later and undated contexts and has not been explicitly recognised.

Prehistoric Pottery *by Emily Edwards*

A total of 773 prehistoric sherds (3313g) were recovered from the evaluation and excavation (**Table 5**). These mostly date to the early Neolithic and the later Bronze Age, although a few sherds of possible early or middle Iron Age pottery were also recovered.

TABLE 5. SUMMARY OF POTTERY ASSEMBLAGE

Pottery date	Vessel Count	Count	Weight (g)	Fabrics
Early Neolithic	5	139	756	AF1-3, F1-2
Later Bronze Age	3	451	2,376	AF1-2, F2-3, FG1
Early or middle Iron Age?		18	23	O3, OB3
Prehistoric		165	158	
Total	8	773	3,313	

The *early Neolithic* pottery (139 sherds, 756 g) was characterised by fabrics made from closed, sandy clay containing occasional ferruginous pellets and sparse to common amounts of coarse, calcined flint (**Table 6**). Five diagnostic rims were present. These included one rounded rim decorated with incised diagonal lines (**Fig. 8**, no. 1), and four plain rims, including everted (Fig. 8, no. 2; diameter 300 mm), pointed (Fig. 8, no. 3)

TABLE 6. QUANTIFICATION OF POTTERY FABRICS

code	Description	Count	Weight (g)
IND	Indeterminate	13	20
AF1	20 % fine sand and 15 % flint up to 2mm.	202	621
AF2	20 % fine sand and 15 % flint up to 3mm, calcined and crushed, not sharp.	140	763
AF3	30 % fine sand and 5-20 % flint up to 4 or 5mm, calcined and crushed, sometimes sharp. Laminated closed clay. Some black organic content to the clay which has not been burnt out.	24	347
F1	Closed clay containing some ferruginous pellets, some 'clay pellets/domains'. Flint is small, moderately sorted, 5%. Angular and not sharp.	69	50
F2	20% moderately sorted calcined and crushed flint in sandy matrix. Sometimes there is ironstone 5%	71	347
F3	Poorly sorted calcined crushed flint, from >1 m to 4mm (grey, white and red pieces). Angular but not sharp fragments. Hackly fracture. 15-15 %.	119	393
FG1	10-15 % well sorted and fine, calcined, crushed flint with 1-2 mm black, soft grog (?).	2	14
O3	25 % organic voids, black fabric.	17	8
OB3	25 % organic material including finely sorted chaff, 5 % small chunks of greensand sandstone/calcareous.	1	15

Note. OA standard codes are used to denote inclusion types: A: sand, F: flint, G: grog, O: organic, B: Greensand lumps. Size range for inclusions: 1 = <1 mm fine; 2 = 1-3 mm fine-medium and 3 = 3 mm < medium-coarse.

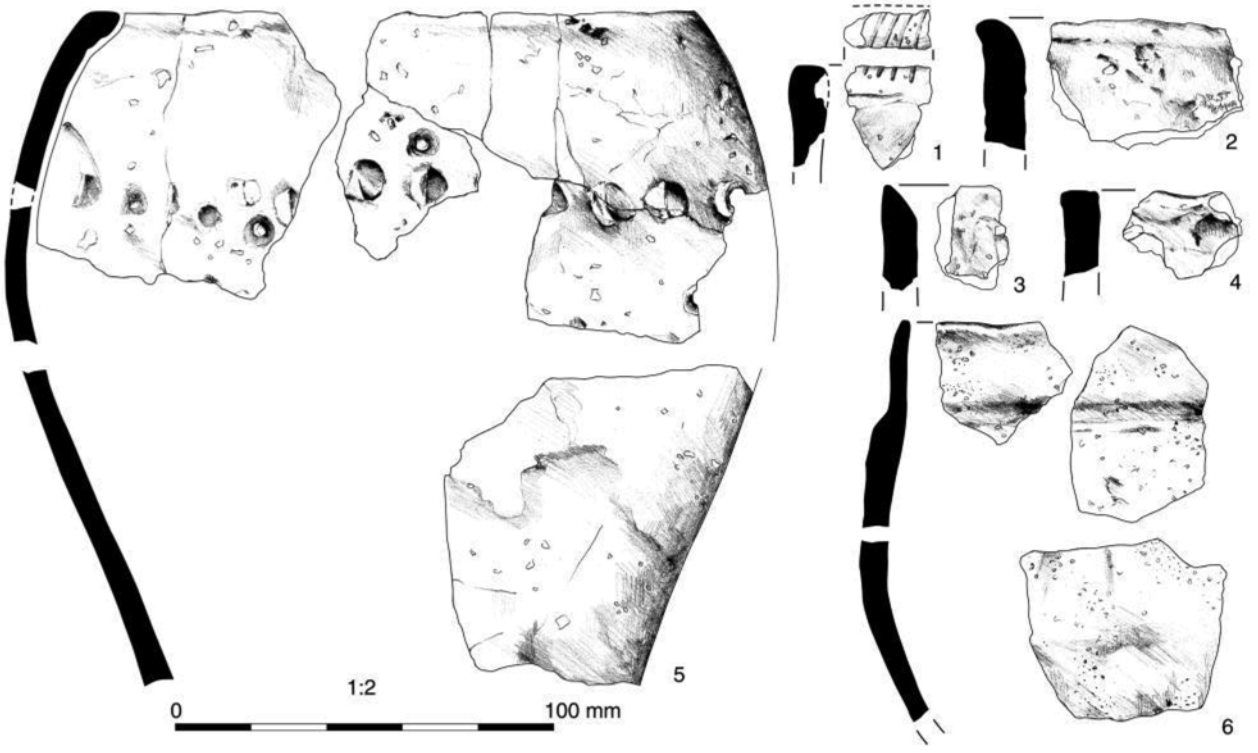

Fig. 8 Pottery finds 1-6. 1. Pit 1421, ctx 1422. Fabric: AF1. Early Neolithic. 2. Pit 1524, ctx 2704. Fabric: AF3. Early Neolithic. 3. Pit 1524, ctx 2704. Fabric: AF3. Early Neolithic. 4. Pit 1524, ctx 2704. Fabric: AF3. Early Neolithic. 5. Ditch 1211, ctx 1110. Fabric: AF2. Later Bronze Age. 6. Ditch 1211, ctx 1107. Fabric: AF1. Profile uncertain. Later Bronze Age.

and squared forms (Fig. 8, no. 4). The plain rim forms are typical of the early Neolithic, and the decorated rim fragment would not be out of place in a 'Mildenhall' type assemblage.

The *middle to late Bronze Age* component of the assemblage (451 sherds, 2376g) was characterised by coarse flint- or sand and flint-tempered fabrics (Table 6). Two semi-complete vessels were recovered from the upper fill of the terminus of ditch 1211, comprising a fragmented fingertip-decorated jar (Fig. 8, no. 5) and a vessel of more uncertain form (Fig. 8, no. 6). The majority of the remaining material consisted of plain body sherds recovered from pit and ditch contexts, although a thick, fingertip-decorated cordon of middle Bronze Age type was recovered from the topsoil.

The fingertip-decorated jar (Fig. 8, no. 5) was represented by 138 sherds, and was manufactured from a sand and flint-tempered fabric. A large proportion of this vessel was present, with 65 per cent of the rim refitted. There were five post-firing holes drilled into the line of fingertip impressions. Drilled holes appear relatively common in later Bronze Age jars in Kent (Macpherson-Grant 1992, 56-60, fig. 1 and fig. 3), often found in a row around the vessel. In the case of the present vessel, the holes do not appear to form a row, and could perhaps be repair holes. The internal walls of the vessel were partly covered with the remains of charred residue.

It is difficult to attribute this vessel securely to either the middle or the late Bronze Age. Ovoid jars are not specifically diagnostic as they are a form found in middle Bronze Age (Morris 2005a, 24 and 60, fig. 5), transitional (Morris 2005b, 19) and late Bronze Age assemblages (Longley and Needham 1980, fig. 20, 34; Booth 2005, 22). Although the rows of fingertip on the shoulder are typical of middle Bronze Age vessels in Kent (Morris 2005a), this jar was thin walled (6mm), much more so than similarly decorated middle Bronze Age urns. The refitting elements of the upper half of the vessel suggest a possible hooked rim form, which would be more characteristic of the late Bronze Age. The apparent combination of middle and late Bronze Age traits could suggest a transitional date.

It is clear from sites elsewhere in Kent that there was an overlap in ceramic traditions around the middle to late Bronze Age transition. An association between middle Bronze Age and earlier late Bronze Age forms has been noted by Morris (2005b, 19) at Tutt Hill and by Barclay (1994, 387-90, 400) at Coldharbour Road, Gravesend, where typical Bronze Age bucket urns were deposited alongside late Bronze Age hooked rim ovoid jars. The Coldharbour Road jar (although plain) and a similarly decorated vessel from Pingewood, Berkshire, are perhaps the closest parallels for the present vessel; the latter of these examples (Bradley 1985, P1) was part of an assemblage generally considered to be of transitional character.

The other vessel from ditch 1211 (Fig. 8, no. 6), also in a sand and flint-tempered fabric, was represented by 132 sherds (549g). It was highly fragmented, and it was difficult to ascertain whether the form was that of a flared rim bowl similar to the decorated example from Pingewood (Barclay 1994) or whether it was part of a Globular Urn type form with an upright rim.

Eighteen plain body sherds (23g) in organic-tempered fabrics O3 and OB3 were recovered from pit 1349, associated with later Bronze Age pottery. Work by Morris (2005b) has suggested that organic fabrics are not a south-eastern tradition during the late Bronze Age, although they are common in the *early and middle Iron Age*. The sherds have therefore been tentatively attributed to this period.

Late Iron Age and Medieval Pottery *by Edward Biddulph*

Grog-tempered pottery (24 sherds, 50g), dating from the second half of the first century BC to *c.* AD 70, was retrieved from ditch 1501; no forms were recognised. Much later in date was a sherd (13g) from ditch 1180; this was a Tyler Hill product, manufactured near Canterbury between the twelfth and fourteenth centuries.

Cremated Human Bone *by Jonny Geber*

The cremation burial (1104) consisted of 240 bone fragments with a weight of 17g. The sample was sieved in >10 mm, 5-10 mm and 2-5 mm size categories for the purpose of assessing fragmentation. The bone fragments were thereafter counted, weighed, identified to skeletal element, side, colour/degree of incineration, and degree of sooting.

The cremated remains of one adult individual were identified in the material. Age was assessed from skull vault fragments and dental roots. Sex determination was not possible due to the severe fragmentation of the material.

It has been noted that modern cremations result in a bone weight between 1000-3600g (McKinley 2000, 404). The fact that only 17g remained from cremation burial 1104 is probably due to truncation. However, it is also possible that only a certain proportion of the bones from the cremation pyre was collected, with the rest perhaps deposited elsewhere (Chocol 1958, 582; Lisowski 1968, 79; Wegewitz 1972, 170).

A successful cremation, where the temperature exceeds 700°C, is only evident from bones with a whitish to white colour. The colour of the bones in this sample ranged from grey-blue to white, indicating a burning temperature of between 500-700°C (Herrmann 1988, 578). In all, 5 per cent of all the fragments and 12 per cent by weight was identifiable which illustrates the heavy fragmentation of the material and that larger

fragments are identified more easily. The largest fragment in the sample was only 19.76mm in size. The mean weight value per fragment in the burial was only 0.07g.

Whether the burnt bones are clean or sooty reflects how they were handled after the cremation. Clean bones would have been picked up and sorted after the burning. Sooty bones would have been collected together with pyre debris and charcoal (Gejvall 1948, 155; Herrman 1972; Lisowski 1968, 78). The bones from this burial were slightly sooty. However, the small quantity of bone makes it inappropriate to speculate further on burial ritual practices.

Charred Plant Remains and Charcoal

by Ruth Pelling, Gill Thompson and Robert Francis

Thirty samples were taken for the recovery of charred plant remains, molluscs and small animal bones from features of early Neolithic to possible medieval date. In addition two small samples were taken from the fill of a middle-late Bronze Age vessel from ditch 1211 (Fig. 8, no. 5). Four samples of charcoal were submitted for analysis, from two early Neolithic pits (1092 and 1524), one later Bronze Age pit (1024), and one undated cremation burial (1104). Results are summarised in **Tables 7 and 8**, while detailed reports can be found in the site archive.

TABLE 7. SUMMARY OF CHARRED PLANT REMAINS

	Sample	1	2	4	5	12	13	20	26
	Feature	1024	1104	1211	1524	1094	1184	1092	1501
	Feature Type	Pit	Crem	Vessel	Pit	Ditch	Ditch	Pit	Ditch
	Phase	2	?	2	1	2	4?	1	3
	Volume (litres)	40	10	1.52kg	10	40	20	40	40
Cereal Grain									
Triticum spelta	Spelt wheat	-	-	-	-	-	-	-	7
Triticum spelta/ dicoccum	Spelt/Emmer wheat	-	-	-	-	-	-	-	1
Triticum sp.	Wheat grain	-	-	-	-	1	1	1	4
Hordeum vulgare	Barley	-	-	-	-	-	-	-	33
Avena sp.	Oats, grain	-	-	-	-	-	-	-	1
Cerealia indet	Indeterminate grain	17	1	-	-	3	-	-	81
Cereal Chaff									
Triticum aestivum type	Bread wheat	-	-	-	1	-	-	-	-
Triticum spelta	Spelt wheat	2	-	-	-	-	-	-	59

	Sample	1	2	4	5	12	13	20	26
	Feature	1024	1104	1211	1524	1094	1184	1092	1501
	Feature Type	Pit	Crem	Vessel	Pit	Ditch	Ditch	Pit	Ditch
	Phase	2	?	2	1	2	4?	1	3
	Volume (litres)	40	10	1.52kg	10	40	20	40	40
Cereal Chaff (cont)									
Triticum dicoccum	Emmer wheat	1	-	-	-	-	-	-	18
Triticum spelta/ dicoccum	Emmer/Spelt wheat	7	-	-	-	-	-	-	165
Cerealia indet	Indeterminate	1	-	-	-	-	-	-	2
Pulses/Nuts									
Vicia/Pisum sp.	Bean/Pea	-	-	-	-	-	-	-	2
Corylus avellana	Hazel nut shell, fragment	-	-	1	-	-	-	-	1
Weeds									
Montia fontana subsp	Blinks	-	-	-	-	-	-	-	5
Chenopodium album	Fat Hen	2	-	-	-	-	-	-	9
Vicia/Lathyrus sp.	Vetch/ Vetchling/Tare	1	-	-	-	1	-	-	4
Crataegus monogyna	Haxthorn, fruit stone frags.	-	1	-	-	2	-	-	-
Polygonum aviculare agg.	Knotgrass	-	-	-	-	-	-	-	1
Polygonum persicaria	Red Shank, Persicaria	2	-	-	-	-	-	-	-
Rumex acetosella agg.	Sheep's Sorrel	-	-	-	-	-	-	-	9
Rumex sp.	Docks	1	-	-	-	-	-	-	5
Prunella vulgaris	Selfheal	-	-	-	-	-	-	-	1
Plantago lanceolata/media	Platain	1	-	-	-	-	-	-	3
cf. Sheradia arvensis	Field Madder	1	-	-	-	-	-	-	-
Galium aparine	Goosegrass/ Cleavers	3	-	-	-	1	-	-	1
Carex sp.	Sedge, two sided	-	-	-	-	-	-	-	2
Gramineae	Grass	-	-	-	-	-	1	-	22
Indeterminate		-	5	-	-	6	-	-	7

Modest quantities of charred seeds and chaff were present in three features of Bronze Age date: pit 1024, ditch 1094 and the vessel fill from ditch 1211 (Table 7). The undated cremation burial and Bronze Age pit

TABLE 8. SUMMARY OF CHARCOAL

Feature	Pit 1092	Pit 1524	Pit 1024	Burial 1104
Context	1093	1195	1025	1105
Phase	1	1	2	?
No. fragments examined	3	3	9	21
Maloideae		XX	X	X
Prunus sp.	XX		XXX	XXX
Quercus sp.	XX	X		
Betula sp.	XX			
Indet.			X	X

(1024) were both dominated by charcoal from the fruit trees *Prunus* and Maloideae (Table 8). It is interesting to note that as well as wood from Maloideae, which includes hawthorn, small, crushed fruit-stones from *Crataegus* sp. (hawthorn) were also found in the cremation burial. This could however have been associated with the fuel for the pyre, rather than being a food offering. There are slight signs of woods typical of a more open landscape being used in the Bronze Age as compared to the Neolithic.

The sample from late Iron Age ditch 1501 produced an assemblage of charred plant remains rich in cereal chaff suggestive of cereal processing waste dominated by glume bases/spikelet forks. Both *Triticum* sp. (wheat) and *Hordeum vulgare* (barley) are well represented. The presence of naked *Hordeum vulgare* in this period is unusual although it is not unprecedented to find occasional grain in a hulled crop (for example at the Danebury Environs sites: Campbell 2000). Occasional asymmetric grain suggests six-row barley is present.

Triticum sp. (wheat) is conversely poorly represented by grain (a total of 12 grains) but well represented by glume bases and spikelet forks (equivalent of 299 glume bases). Both *Triticum spelta* (spelt wheat) and *T. dicoccum* (emmer wheat) are represented. *Triticum spelta* is the typical wheat crop of the Iron Age and Roman period in southern Britain (Greig 1991). The occurrence of *Triticum dicoccum* with *T. spelta* in these periods has been noted at several sites in Kent, for example in a later Iron Age pit assemblage at Wilmington (Hillman 1982). In other well studied areas of southern Britain, such as the Thames Valley and the Hampshire basin, emmer wheat tends to be present as a weed of spelt, although it has been recorded at some sites in the Roman period as a crop in its own right (e.g. Pelling 2000).

A total of 69 weed seeds were present in the sample, which included common arable/ruderal species and tended to be small. *Montia fontana*

subsp. *chondrosperma* (blinks) requires at least seasonal flooding, and consequently its presence is indicative of damp ground. *Prunella vulgaris* (self heal) is a low-growing plant of neutral to basic grassland habits. *Rumex acetosella* and *Vicia/Lathyrus* species are also characteristic of grassland habitats although they do occur as arable weeds. *R. acetosella* tends to be associated with slightly acidic soils, but is not entirely confined to them. Such grassland species may have entered the assemblages with animal dung, or as turfs, or may have been growing in the immediate vicinity of the site. The presence of damp ground species in association with cereal remains might be the result of cultivation of partially or seasonally wet ground. The remaining species are fairly typical arable or ruderal weed species or autumn or spring-sown crops and may have entered the assemblage with either the barley or wheat crops.

The assemblage was chaff-rich, the majority of chaff being glume bases or spikelet forks of *Triticum spelta* and *T. dicoccum*. The presence of a large number of glume bases plus small-seeded weeds is typical of fine sieving processing waste, resulting from the sieving of the threshed and winnowed crop through a small mesh to separate the grain and larger weed seeds/chaff items from the smaller glume bases and weed seeds. Fine sieving appears to be typically carried out on a day-to-day basis and the waste product forms the bulk of assemblages of smaller rural sites at this period (Stevens 2003).

Soil Micromorphology, Chemistry and Magnetic Susceptibility
by Richard Macphail and John Crowther

Monoliths were taken from early Neolithic pit 1092 (fill 1093, 0-400 mm) and later Bronze Age hollow 1013 (fill 1014, 0-300 mm). These were described and subsampled (Hodgson 1974; Goldberg and Macphail 2006) for four thin sections and four associated bulk samples for magnetic susceptibility and chemistry studies, the latter including determination of loss-on-ignition (LOI), phosphate-P_i (inorganic phosphate) and phosphate-P_o (organic phosphate). The principal findings have been summarised here (by LW); the full report is available in the site archive.

The thin section demonstrates that the Neolithic pit fill contained much fine charcoal. It shows pedofeatures and iron staining probably associated with weathering of dumped charcoal-rich 'ash', particularly in the lower part of the fill. The magnetic susceptibility values from the feature were low, providing no clear evidence that the fills have been affected by burning, but this is likely to be due to soil leaching. The pit also shows fairly low phosphate concentrations, perhaps suggesting that 'occupation' and activities such as butchery were distant from the pit, although this is difficult to evaluate in the absence of control samples.

The thin section from the Bronze Age hollow suggests that this feature

was formed by digging out of the soil down into the sands underlying the Brickearth. Only small amounts of anthropogenic material (charcoal, pottery and flint) became included in the fills. The fills show significant evidence for trampling under wet conditions. However, as phosphate concentrations were low, there is no positive evidence of stock activity. Magnetic susceptibility values were also low.

DISCUSSION

Early Neolithic occupation

Early Neolithic pit groups similar to those at Westwood are relatively common finds in much of the country, but only a few excavated examples are known from Kent (Ashbee 2004). These pit clusters, lacking accompanying evidence for substantial buildings, are usually taken as indicative of a relatively mobile way of life (Whittle 1997; Thomas 1999; Garrow *et al.* 2005). The homogeneous nature of the pit fills at Westwood suggests a relatively prompt backfilling of only one or two episodes, a feature shared by the majority of Neolithic pits in Britain (Thomas 1999, 64).

Many researchers have linked the digging and infilling of pits with the marking of a particular place and the creation of an association between it and particular activities or people (Edmonds 1999). In this context, the act of cutting the pits and placing objects into them becomes a means of commemorating events such as feasts or periods of occupation (Thomas 1999, 70). This model may apply to the occupation site at Westwood, with people living there on a temporary basis only, perhaps to cultivate cereals (which did not require year-round attention) before moving on.

With the exception of pit 1524, which contained significant amounts of pottery and worked flint, the Neolithic features at Westwood produced relatively few artefacts. Charred plant remains from the sampled features were very sparse, and no animal bone survived. Given this apparent paucity of material, it is possible that the site never saw intense occupation, or was only associated with a limited range of activities.

Later Bronze Age field system

The scarcity of well stratified, datable finds from the field system means that its dating rests partly on morphological grounds. Double-ditched boundaries similar to those at Westwood are frequently seen in later Bronze Age field systems in south-east England, such as Valley Park, Purley, in the Wandle Valley (Heathcote 1989), and probably indicate that the fields were separated by hedges or banks. The corner entranceways seen at Westwood can also be paralleled in a number of field systems of this date, for example at Storey's Bar Road, Fengate, Cambs. (Pryor 2001). The Westwood field

system may represent a continuation of that uncovered at Westwood Cross, 700m to the west, which produced no dating evidence but was cut by a middle to late Bronze Age enclosure (Gallop 2004).

A later Bronze Age date for the field system would tally with the abundant evidence now emerging for large-scale land division during this period in the Thanet/Wantsum Channel area. This includes the middle Bronze Age field system at Netherhale Farm near Birchington (Macpherson-Grant 1993), 9km to the west of the site, and the probable late Bronze Age systems at Manston Road and the Harbour Approach Road in Ramsgate (Yates 2001, 77; Shand 1999), 2km to the south. The emergence of land division in the area seems to have been accompanied by other changes, including a marked increase in metalwork deposition (Perkins 1992). This concentration of activity has been attributed to a possible role for the Wantsum Channel as a 'gateway zone' for interaction with the Continent during the later second millennium BC (Yates 2001; 2004).

The paucity of finds and the paleness of the ditch fills from the Westwood field system suggest that it was peripheral to any focus of settlement. Later Bronze Age pottery and a socketed chisel has been recovered from the excavations at Thanet Reach Business Park, immediately to the east, but the nature of the activity at this site is poorly defined (Perkins 1998; 1999). The significance of the gold ring found in the vicinity of the present site (see Introduction) is also difficult to evaluate in the absence of any contextual information.

There is little direct evidence for the farming regimes associated with later Bronze Age field systems in southern England, although it has been suggested that they were primarily used for pastoral rather than arable purposes (Pryor 2001; Yates 2001). At Westwood, the possible pond or waterhole found within the field system (feature 1349) might support this interpretation. Furthermore, the trampling observed in hollow 1513 could represent animal poaching, although the low concentrations of phosphate might count against intensive livestock activity in the vicinity of this feature (see Macphail and Crowther report above). However, the small quantity of cereal processing waste from pit 1024 demonstrates that there was also an arable element to the local economy.

The most notable finds from the field system were the two semi-complete vessels, possibly of transitional middle-late Bronze Age date, placed into the upper fill of the terminus of ditch 1211. Whilst the relationship between the vessels is not completely certain, their location immediately adjacent to each other suggests that their deposition was not widely separated in time. What is clear is that the ditch had already largely silted up by the time that the pots were deposited. This suggests that they represent a 'closing' deposit, marking the end of the use of the ditch, and perhaps of the field system as a whole.

While cremation burial 1104 contained no datable material, its location

adjacent to one of the field system ditches hints at a Bronze Age date. However, a later date for the burial cannot be ruled out, as unurned cremation burials are also known in the late Iron Age and Roman period. Two further unurned cremation burials have been found nearby at Thanet Reach Business Park (Perkins 1999).

It is also uncertain whether the curvilinear post alignments were associated with the field system, although it does seem likely that they post-date the Neolithic occupation. Close parallels have not been found for these features, although much longer post alignments have been found in apparent association with a later Bronze Age field system at Barleycroft Farm, Needingworth, Cambs. (Evans and Knight 2001).

Post-Bronze Age activity

Activity in the late Iron Age was limited to a single segmented ditch. However, the dark fills and abundant charred plant remains associated with this feature suggest that there may have been a focus of settlement nearby. The sampled plant remains seem to represent the waste by-product of fine sieving glume wheats, which was then probably used as hearth or oven fuel. The weed assemblage suggests that partially or seasonally wet ground was cultivated (see Pelling report above).

The function of the putative medieval enclosure system is unclear, although the extreme paucity of finds discounts a settlement function. The enclosures could perhaps simply have served as paddocks. At a later stage of the medieval period, the site seems to have fallen under arable use, represented by the thick ploughsoil layer overlying the archaeological deposits.

ACKNOWLEDGEMENTS

OA would like to thank Spenhill Developments Ltd, Rob Bourn and Paul Chadwick at CgMs Consulting and Adam Single at Kent County Council for facilitating the project. The OA fieldwork was supervised by Gerry Thacker, John Paine and Hugo Pinto, and managed by Peter Davenport. The post-excavation work was managed by Alex Smith and Leo Webley. The report was edited by Alex Smith. The illustrations in this report are by Georgina Slater, Amy Hemingway and Sarah Lucas.

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