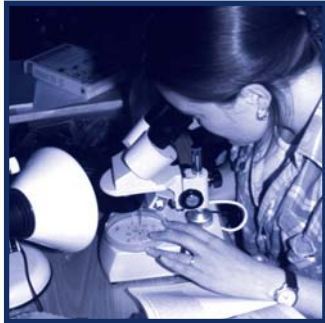


Land Adjacent to Tesco Extra Margate Road Broadstairs Kent



Post Excavation Assessment and Updated Project Design



Oxford Archaeology

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LAND ADJACENT TO TESCO EXTRA, WESTWOOD, BROADSTAIRS, KENT

POST-EXCAVATION ASSESSMENT AND UPDATED PROJECT DESIGN

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SUMMARY

Oxford Archaeology carried out an excavation between July and September 2005 at land adjacent to Tesco Extra, Margate Road, Broadstairs, Kent for CgMs Consulting on behalf of Spenhill Developments. Three phases of activity were revealed. A cluster of early Neolithic pits occurred in the southern part of the excavated area, producing small amounts of pottery and worked flint. This pit cluster was overlain by a field system of probable later Bronze Age date. The latest activity consisted of an enclosure system belonging to the late Iron Age/early Roman period. Undated features included an unurned cremation burial and two posthole alignments. This report assesses the potential of the site archive, and sets out an updated project design for its full analysis and publication.

1 INTRODUCTION

1.1 Location and scope of work

1.1.1 Between July and September 2005 Oxford Archaeology (OA) undertook an excavation to the east of Tesco Extra, Margate Road, Broadstairs, Kent (NGR TR 367 677) for CgMs Consulting on behalf of Spenhill Developments (Fig. 1). The work was carried out in respect of a planning application for a road providing access for a proposed retail park. A Written Scheme of Investigation for the work (OA 2005) was agreed with the Archaeological Officer of Kent County Council.

1.2 Geology and topography

1.2.1 The site lies at *c* 47 to 51 m OD. The geology consists of Upper Chalk overlain with isolated outcrops of Thanet Beds, which are capped by a Brickearth/Head material, a clay deposit laid down in the Pleistocene and Holocene. Clay-with-flints also occurs nearby. Prior to excavation the site was unused and under grass, but it had been ploughed in the recent past.

1.3 Archaeological background

1.3.1 The archaeological background of the area has been outlined by an earlier desk-based assessment (CgMs 2004). The site lies immediately to the west of the excavations at Thanet Reach Business Park, which 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 un-urned cremations were also found (Perkins 1998; 1999). In the wider area around the site, Bronze Age barrows and cropmarks thought to date to the later Iron Age/Roman period are known.

1.3.2 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 11 ha. Archaeological features were encountered in eight of the trenches, most of which were located in the north-eastern part of the evaluation area. The features included a

single early Neolithic pit, and two linear ditches containing pottery dated to the Neolithic and the Iron Age respectively. A medieval or post-medieval quarry pit and two undated postholes were also found. Following discussions with the Archaeological Officer of Kent County Council, it was agreed that the north-eastern part of the evaluation area would be targeted for further investigation.

2 ORIGINAL RESEARCH AIMS

2.1.1 The aims of the excavation, as defined by the WSI, were as follows:

- To establish a relative and absolute chronological framework for the site, giving priority to establishing an overall plan of the site and determining the various phases and sub-phases of activity.
- To determine the internal morphology of the site and land-use, to identify the nature, date and range of zones of activity (residential, industrial, religious etc), and to determine the dynamics of the spatial distribution of activities and changes over time.
- To clarify the character, nature, date and the extent of remains associated with the early prehistoric (especially Neolithic) activity recorded during the evaluation, and to address the spatial organisation of the activity through the analyses of the distributions of artefactual and environmental assemblages.
- To determine the environmental history of the site and its immediate surrounding area throughout the sequence of human activity on the site.
- To support the detailed assessment of the chronology of the artefactual and environmental material with a programme of radiocarbon samples if possible.
- To enhance the understanding of the prehistoric occupation of Thanet through the examination of the date, form and character of the activity within its local, regional and national context.
- To make available the results of the research.

3 EXCAVATION METHODOLOGY

3.1.1 Excavation was carried out on a 'strip, map and sample' basis. A total area of 1.5 ha was stripped. All work was carried out in accordance with the requirements set out in the WSI, and followed procedures laid down in the *OA Fieldwork Manual* (OA 1992).

3.1.2 The overburden was stripped under archaeological supervision with using a 360° tracked mechanical excavator with a toothless ditching bucket. Machine excavation continued until either archaeological deposits or the natural geology was encountered. Hand excavation of the archaeological features then followed. It was initially agreed, in consultation with the Archaeological Officer of Kent County Council, that a minimum sample of 5% of linear features and 50% of all discrete features would be

excavated. However, the site was subsequently found to contain a large number of pits with similar, generally sterile fills, and after further consultation it was agreed that only a representative sample of these features would be excavated.

- 3.1.3 All archaeological deposits were allocated a unique context number. Plans and sections of individual excavated slots were drawn at a scale of 1:20. The locations of the individual plans and section lines were tied into an overall digital site plan using a total station. Features were also recorded by colour and monochrome photography.
- 3.1.4 Finds were recovered by hand during the course of the excavation and generally bagged by context. Finds of special interest were given a unique small find number.
- 3.1.5 A series of environmental samples were taken from archaeological features, including bulk samples for charred plant remains, incremental samples for mollusc shell, and soil micromorphology columns. The sampling strategy has been laid out in the WSI. No palynological samples were taken, as the evaluation had demonstrated that the soil is minerogenic and preservation of pollen is likely to be extremely poor.

4 THE ARCHIVE

- 4.1.1 The fieldwork generated the following archive (Table 1):

Table 1: Site archive

| | |
|--------------------------------|--------------|
| <i>Stratigraphic records</i> | |
| Context records | 524 |
| Plans | 187 |
| Section drawings | 202 |
| Photographic films | 28 |
| <i>Environmental samples</i> | |
| Bulk samples | 14 |
| Soil micromorphology monoliths | 7 |
| Mollusc series samples | 2 |
| <i>Finds</i> | |
| Animal bone | 29 (31 g) |
| Burnt flint | 15 (255 g) |
| Human bone | 244 (17g) |
| Iron | 1 |
| Pottery | 581 (2949 g) |
| Worked flint | 303 |
| Worked stone | 1 |

5 ASSESSMENT OF STRATIGRAPHY

5.1 General

- 5.1.1 Stripping of the site showed that the archaeological features were overlain by 0.70-0.80 m of overburden, consisting of the modern topsoil and a buried ploughsoil of probable medieval date. The depth of overburden was around 40% greater than that implied by the evaluation, and it would appear in retrospect that most of the evaluation trenches had failed to reach the natural brickearth.
- 5.1.2 As a consequence, the density of archaeological features revealed beneath the subsoil was greater than had been expected. Linear features and discrete pits were distributed across

most of the site, with particular concentrations in the southern and north-western parts of the excavated area.

- 5.1.3 Medieval and post-medieval ploughing had 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, few clear stratigraphic relationships between features could be discerned. As a result, the phasing presented in this report is tentative and provisional. Three phases of activity have been identified, as follows:

- Phase 1: Early Neolithic
- Phase 2: Middle-late Bronze Age
- Phase 3: Late Iron Age-early Romano-British period

5.2 Phase 1: Early Neolithic

- 5.2.1 While the pits located at the southern end of the site were largely devoid of datable material, small amounts of early Neolithic pottery were found in three of these features (1421, 1465 and 1471). This may provide an indication of the date of the southern pit group as a whole.
- 5.2.2 Pit 1421 was located close to the western limit of excavation. It was a very shallow, concave feature, measuring 0.95 m in diameter and 0.05 m deep. The fill of pale silty sand yielded small fragments of a decorated bowl.
- 5.2.3 A short distance to the south-east, features 1465 and 1471 formed part of a complex of four inter-cutting pits. These pits were all oval in form, measuring 0.50-1.30 m in diameter and 0.17-0.68 m deep. All had mottled fills of sandy silt.
- 5.2.4 Also lying within the southern pit group was pit 1524, which had been partially excavated during the evaluation, producing early Neolithic pottery and flintwork. Full excavation of the pit produced no further finds other than one piece of burnt flint. The feature measured 0.80 m in diameter and 0.66 m deep, with a dark, homogenous fill which appeared to represent an ash-rich dump (see *Soils and sediments* below).
- 5.2.5 A further 20 pits were excavated in the southern pit group, while around 25 were left unexcavated. The excavated examples measured up to 2.10 m in diameter and 1.00 m deep. No finds were recovered other than a moderate amount of worked flint. Most of the pits had a bowl-shaped profile and a single fill of dark brown silt, reminiscent of that from pit 1524. It is also notable that two of the excavated pits (1092 and 1412) and a further two unexcavated examples were cut by ditches tentatively dated to the later Bronze Age. It thus seems possible that the southern pit group as a whole dates to the earlier Neolithic.
- 5.2.6 There was much less evidence for activity in the northern part of the site during this period. However, a sherd of possible early Neolithic pottery was recovered from small pit 1051. This feature was cut by a late Iron Age/early Roman ditch.

5.3 Phase 2: Middle-late Bronze Age

Field system

- 5.3.1 It seems likely that the majority of the linear ditches at the site belong to a field system of later Bronze Age date. Datable finds from these ditches were very sparse, but 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 would tally with the extensive evidence for land division in this period elsewhere in Thanet and north-east Kent (see *Revised research aims* below).
- 5.3.2 Ditch 1211 was 94 m long and followed a NE-SW alignment. The two late Bronze Age vessels (1107 and 1110) were found standing upright, directly adjacent to each other, 4 m from the south-western terminus of the ditch. 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.
- 5.3.3 Double-ditched boundary feature 1371/1399 ran off at right angles from the northern side of ditch 1211, and was thus presumably contemporary. Several similar double-ditched boundaries - each formed of parallel linears *c* 1.5-2.0 m 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 (Yates 2001). Irregular, segmented ditch 1440 has also been tentatively ascribed to this phase, although an association with the late Iron Age/early Roman enclosure system cannot be ruled out.
- 5.3.4 The field system was essentially rectilinear in form, although it became more irregular towards the eastern part of the site. The individual fields or enclosures seem to have been of variable size and shape. While not all of the boundaries need have been contemporary, there was no stratigraphic evidence for development of the system over time. The individual ditches had V- or U-shaped profiles, and were up to 1.00 m wide and 0.72 m deep, becoming shallower in the eastern half of the site. The ditch fills invariably consisted of pale, naturally-deposited silts. Other than the two vessels from ditch 1211, the only finds were moderate amounts of worked flint, and a few sherds of residual early Neolithic pottery from ditches 1094 and 1272.

Pits

- 5.3.5 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 6.50 m in size, and up to 1.00 m deep. It contained two fills of silty clay, and may possibly have served as a pond or waterhole. The other two pits, 1009 and 1024, were much smaller, concave features with dark silty fills.

5.3.6 Later Bronze Age pottery was also recovered from shallow hollow 1013, located at the eastern edge of the excavated area. It measured 9.00 m in diameter and up to 0.34 m deep, with a mottled silty fill. The character of the fill suggested the action of livestock trampling (see *Soils and sediments* below).

5.4 Phase 3: Late Iron Age-early Romano-British period

5.4.1 Activity during this phase took the form of a complex of ditches in the north-eastern part of the excavated area. Given the few finds recovered, this ditch system would appear to have been peripheral to any contemporary settlement.

5.4.2 Stratigraphic evidence suggests that there were two distinct stages of construction. The earlier stage is represented by segmented, curvilinear ditch 1501, which ran for 30 m on a NW-SE alignment, continuing beyond the eastern limit of excavation. This ditch was 0.38 m deep, with a single fill of sandy silt which yielded a small amount of late Iron Age/early Roman pottery.

5.4.3 Ditch 1501 was subsequently overlain by a rectilinear enclosure system. This was structured around parallel NE-SW aligned ditches 1180 and 1185, placed 19 m apart; further linears (1047, 1049 and 1189) ran perpendicularly between these ditches to form small rectangular compounds. The individual ditches were up to 0.24 m deep with U-shaped or flat-based cuts, and all contained naturally-deposited, pale, silty fills. A single sherd of 1st-2nd century AD pottery was recovered from ditch 1180, and a small amount of generic Iron Age pottery from ditch 1183. Linear, NW-SE aligned ditches 1102 and 1184 have also tentatively been placed in this phase on the grounds of their location and orientation, although an association with the later Bronze Age field system cannot be ruled out.

5.4.4 No stratigraphic relationships could be observed between the Phase 3 ditches and Phase 2 field system. While Phase 2 ditch 1180 crossed the line of Phase 3 ditch 1181, their fills could not be distinguished.

5.5 Undated features

5.5.1 Two curvilinear posthole alignments in the southern part of the excavated area yielded no finds and cannot be dated at this stage. The larger of the two alignments (1261) was at least 19 m long, continuing beyond western limit of excavation. It consisted of 30 postholes, which ranged from 0.18-0.30 m in diameter and from 0.03-0.14 m 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.

5.5.2 Lying 40 m 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 0.11-0.20 m in diameter and 0.08-0.20 m 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 can be demonstrated.

- 5.5.3 A single un-urned and unaccompanied cremation burial, 1104, was found in the central area of the site. This was severely truncated, measuring 0.34 m in diameter and only 0.05 m deep.
- 5.5.4 Other undated features comprised a few scattered pits or postholes, and three short curvilinear gullies (1007, 1069 and 1379). These gullies were no more than 0.17 m deep and were devoid of finds.

5.6 Statement of potential

- 5.6.1 The stratigraphic assessment has shown that three discrete phases of activity can be identified on the site. This provides the potential to compare activities and land use at different points in time, although the hiatuses between the phases limit the scope for investigation of long-term processes of change. Given the limited number of stratigraphic relationships between features, and the small number of closely datable finds, further stratigraphic analysis has only modest potential to refine the phasing. However, charred plant remains suitable for radiocarbon dating have been retrieved from a number of pit and ditch contexts, and from cremation 1104. The currently undated posthole alignments unfortunately produced no organic material, although if parallels can be found at other sites in the region a tentative phase ascription may be possible.
- 5.6.2 Comparison with the results of the excavations at Thanet Reach Business Park, immediately to the east, may aid the interpretation of the stratigraphy. For example, it is possible that elements of the later Bronze Age field system continue in this direction.

6 ASSESSMENT OF FINDS AND ENVIRONMENTAL EVIDENCE

6.1 Worked flint

by Rebecca Devaney

Introduction

- 6.1.1 A total of 303 pieces of worked flint were recovered (Table 2). A further 15 fragments (255 g) of burnt unworked flint were also retrieved (Table 3). The majority of the assemblage is technologically later prehistoric in date and can be broadly dated to the later Neolithic and early Bronze Age. A leaf-shaped arrowhead and a few elegant blades are likely to be earlier in date and may have been associated with the early Neolithic activity at the site. A full catalogue of the material is provided in Appendix 2.

Table 2: Summary of worked flint by type

| Flint category | Total |
|----------------------------|-------|
| Flake | 247 |
| Blade | 16 |
| Bladelet | 2 |
| Irregular waste | 9 |
| Single platform flake core | 2 |

| | |
|---------------------------------|------------|
| Multi-platform flake core | 9 |
| Unclassifiable/fragmentary core | 4 |
| Leaf-shaped arrowhead | 1 |
| End and side scraper | 4 |
| End scraper | 3 |
| Side scraper | 2 |
| Disc scraper | 2 |
| Probable knife | 1 |
| Miscellaneous retouch | 1 |
| Total | 303 |

Table 3. Summary of burnt unworked flint by context

| Context | Count | Weight |
|--------------|-----------|------------|
| 1012 | 1 | 5 |
| 1029 | 1 | 50 |
| 1193 | 1 | 59 |
| 1279 | 11 | 119 |
| 1512 | 1 | 22 |
| Total | 15 | 255 |

Provenance

- 6.1.2 The worked flint was recovered from 71 contexts. Most of the flint (120 pieces) was recovered from features provisionally dated to the later Bronze Age; however, substantial numbers were also recovered from late Iron Age/Roman features (95 pieces) and as yet undated contexts (59 pieces). A small amount of flint was present in features dated to the earlier Neolithic. Most contexts contained less than ten pieces of flint; however, contexts 1001 (the subsoil), 1083, 1093 and 1512 produced between 29 and 36 pieces.

Raw material

- 6.1.3 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 small number of chalk-derived flints, which are identified by a thick white cortex, were also present. The site is located on chalk bedrock and these are therefore also likely to be locally derived. The assemblage includes 18 pieces (6%) of Bullhead flint. This is found in the Bullhead Bed at the base of the Reading Beds (Dewey and Bromehead 1915, 18-19) 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 small outlier of the Thanet sands is located just to the east of the town and will be the closest source of Bullhead flint.

Condition

- 6.1.4 In general the condition of the assemblage is good. A total of 120 pieces of flint (40%) were recorded as being in a fresh condition and 145 pieces (48%) show slight post-depositional damage. Just 36 pieces (12%) exhibit moderate post-depositional

damage and two pieces are heavily damaged. The damage is most frequently seen on vulnerable unretouched edges and implies a degree of post-depositional disturbance. The amount of surface alteration is minimal with the majority of the assemblage (284 pieces, 94%) being uncorticated. Light, moderate and heavy cortication was seen on 15, 2 and 2 pieces respectively. These pieces are spread throughout the contexts alongside uncorticated flints. A total of 86 pieces (28%) are broken and 13 (4%) show signs of burning.

Technology and dating

- 6.1.5 Unretouched debitage dominates the assemblage (274 pieces, 90%). Of this total, 247 pieces are flakes and 18 are blades and bladelets. This proportion (7% blades) is fairly low and suggests the material dates to the later Neolithic and Bronze Age (Ford 1987, 79, table 2). In general, the debitage exhibits characteristics associated with the hard hammer percussion industries of later prehistory, such as large platforms, pronounced bulbs of percussion and clear ventral ripples, which the supports the dating indicated by the flake to blade ratio.
- 6.1.6 A total of 15 cores were recovered, all of which were utilised for the production of flakes as opposed to blades, which is consistent with the unretouched debitage and supports the suggested dating. Most of the cores are well worked with more than one prepared striking platform; however, two of the cores have only been worked from one platform. The fragmentary or unclassifiable cores are more irregularly worked than the other cores. Thermal surfaces are often present and some are broken. The size of the cores varies, with weights between 36 g and 249 g.
- 6.1.7 The retouched element of the assemblage consists of 14 pieces and is dominated by scrapers (11 pieces). The leaf-shaped arrowhead (context 1251) is quite small, measuring 28 mm long, 17 mm wide and 4 mm thick. Irregular retouch almost entirely covers both surfaces. The delicate tip is intact, although damage has occurred on one of the edges. Leaf-shaped arrowheads can be broadly dated to the earlier Neolithic (Green 1984, 19) and so this piece, recovered from a possible Bronze Age ditch, may be residual. The scrapers vary in terms of size and quality and were recovered from a range of Bronze Age and later contexts. Unusually, one of the end and side scrapers (context 1050) has been retouched around the proximal end as opposed to the distal end due to an awkward hinge termination and one has had its bulb thinned (context 1025). The scrapers are not in themselves chronologically diagnostic, although all are consistent with Neolithic and Bronze Age flint working. The probable knife (context 1250) is very unusual. The proximal end of a large flake has been thinned (both the edges and the bulb) to facilitate hafting and the distal end exhibits heavy use-wear and edge rounding. The knife was recovered from a possible Bronze Age ditch and is tentatively dated to the early Bronze Age. The piece with miscellaneous retouch (context 1001, the subsoil) is a blade with a length of possible direct retouch on one edge that cuts the heavy cortication seen on the rest of the piece. Unfortunately the blade has also suffered heavy post-depositional damage and so the retouch may not be genuine.

Statement of potential

- 6.1.8 The flint from Broadstairs can be broadly dated to the later Neolithic and Bronze Age. This is based on the technological characteristics of the assemblage. The earliest provisionally dated features containing flint are three earlier Neolithic pits. Pit 1465 (context 1469) contained one blade made from Bullhead flint, pit 1471 (context 1473) contained six flakes and pit 1524 (1193) contained one piece of burnt unworked material. Blades and flakes made on Bullhead flint have been recovered from earlier Neolithic pits elsewhere in Kent. For example, in the earlier Neolithic pits at Saltwood Tunnel (part of the CTRL project) 40% of the identifiable raw material was Bullhead flint (Devaney forthcoming). This may indicate that the material was easily available in the earlier Neolithic or that it held a special significance.
- 6.1.9 As the quantity of flint recovered from early Neolithic features during the excavation was small, its potential is limited. However, a total of 82 pieces of worked flint were recovered from an early Neolithic pit (1524) during the evaluation stage of the project (Bradley 2004). The assemblage included a finely worked serrated blade as well as unretouched debitage and cores and on the whole was said to be consistent with a Neolithic date. Although no refits were identified, it is possible that knapping sequences could be made. This group clearly has potential for further work.
- 6.1.10 The good condition of the flint suggests that much of the material was recovered from in situ deposits or has not moved very far. This implies that the bulk of the material recovered from Bronze Age contexts is representative of Bronze Age activity at the site, an interpretation consistent with the dating of the flint. The high proportion of scrapers is usual for this period but may also suggest a concentration of scraping activities in the area. On the contrary, the material recovered from the late Iron Age/Roman contexts is likely to be residual. 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 in the assemblage.

6.2 Pottery

by Alistair Barclay and Edward Biddulph

- 6.2.1 In total 23 hand-excavated contexts produced 581 sherds (2949 g) of pottery. The pottery ranges in date from the early Neolithic through to the early Roman period. The assemblage is characterised by mostly plain body sherds and relatively few featured sherds. The overall condition of the assemblage is rather poor and there are no large groups of vessels.

Methodology

- 6.2.2 All the pottery recovered from hand-excavated features was examined (excluding material recovered from sieving). The assemblage was recorded by ceramic style, fabric and where possible assigned to a chronological period. In the absence of featured sherds dates were assigned on the basis of fabric and appearance. The assemblage is quantified by sherd count and weight (see Appendix 1).

Provenance and date

- 6.2.3 The pottery was recovered from a cluster of early Neolithic pits, the ditches of a later Bronze Age field system and associated pits and the ditches of a late Iron Age/early Roman field /enclosure system.
- 6.2.4 The earliest pottery belongs to the plain and decorated bowl phase (3650-2250 cal BC) of the early Neolithic. It is not uncommon to find such pottery associated with pits and occupation deposits. The single decorated rim from pit 1421 would not be out of place in a Mildenhall style assemblage.
- 6.2.5 Middle and/or late Bronze Age pottery includes two fragmentary vessels from ditch 1211, and a few base fragments. The presence of relatively thick-walled (10-20 mm) coarse flint-tempered sherds suggest that these belong to Bucket Urn style vessels of the middle Bronze Age (1600-1150 cal BC). A fragmentary Bucket Urn (1110) with drilled perforations/repair holes and finger-tip decoration was recovered from ditch 1211. This vessel was surprisingly thin-walled, which could be an indicator that it is of transitional middle to late Bronze Age date. Charred residue was noted on the interior surface indicating use as a cooking vessel. Another unusual flint-tempered vessel (1107) was recovered from the same ditch. The form of this vessel is uncertain and possibly problematic. It is flint-tempered and its fabric is similar to other later Bronze Age vessels. However, rim and body fragments suggest a vessel of globular form with a possible flaring rim. Such vessels are unlikely to be of middle to late Bronze Age date, although it could be of late Bronze Age to early Iron Age date. It will be important to try and reconstruct the vessel profile at the analysis stage to resolve this issue.
- 6.2.6 The late Iron Age/early Roman pottery includes a few grog-tempered sherds and one grey ware sherd (see Table 1).

Statement of potential

6.2.7 The prehistoric and Roman pottery has limited potential beyond its use to phase the site. There are no large vessel groups, although there are a few interesting pots. The occurrence of early Neolithic pottery, albeit mostly body sherds, is of interest and of regional importance. Given the lack of featured sherds of this date from the excavation, it is important that the early Neolithic pottery from the evaluation is included in any final publication. The remains of two slightly unusual middle to late Bronze Age vessels from ditches 1106 and 1109 deserve further comment and will require reconstruction. It is suggested that a radiocarbon date is obtained on charred residue adhering to the surface of one of these pots. This will provide a precise date for this vessel and the ditch context, and will help test the suggestion that the two vessels could be broadly contemporaneous.

6.3 Other artefacts

6.3.1 A possible hammer-stone was found in the upper fill (1347) of pit 1349. This takes the form of a natural cobble, 50 mm long, with traces of pecking on one side.

6.3.2 A possible iron artefact - conceivably a corroded nail - was recovered from ditch 1123 (context 1124). However, the object is considered more likely to be a natural iron concretion.

6.4 Faunal remains

by Kristopher Poole

6.4.1 A total of 29 fragments (31 g) of animal bone were recovered, all from Phase 2 (middle/late Bronze Age) contexts. Context 1347 (fill of pit 1349) contained three fragments, none of which could be identified to element or species. Context 1068 (fill of hollow 1013) yielded 26 teeth fragments, although these probably only represent 1 to 2 complete teeth at most. However, their fragmented nature meant they could not be refitted. All of the teeth were from cattle.

Statement of potential

6.4.2 The faunal assemblage is very small and has no potential for further work.

6.5 Human remains

by Jonny Geber

6.5.1 A small sample of 244 fragments of cremated bone, with a total weight of 17 g, has been osteologically analysed. These derived from an undated unurned cremation burial (1105), the fill of a vessel deposited in the upper layer of a later Bronze Age ditch (1108), and from the fill of a late Iron Age/early Roman ditch (1504).

6.5.2 The cremation burial (1105) consisted of 240 bone fragments with a weight of 17g. The other two contexts (1108 and 1504) consisted of two bone fragments each, weighing less than 1g.

Osteological methodology

- 6.5.3 There are many obstacles in the osteological study of cremated bone. The main limitations are the often considerable fragmentation and the distortions caused by the heat implications during the cremation process. Another factor is the loss of volume, from the burning to the deposition of the bones into the grave, which often is evident in ancient cremation burials. All these factors makes many of the available osteological methods inadequate when analysing burnt skeletal materials (see Rösing 1977, 54).
- 6.5.4 The sample was sieved in >10 mm, 5-10 mm and 2-5 mm size categories for the purpose of assessing the fragmentation of the sample (Table 1). The bone fragments were thereafter counted, weighed (with 1 g accuracy), identified to species and skeletal elements, side, colour/degree of incineration, and whether they were clean or sooty.
- 6.5.5 The main methods for sex determination on fragmented burnt materials (e.g. Gejvall 1948; Schutkowski and Herrmann 1983, Wahl 1982, 97 ff.) were not applicable on the Broadstairs material due to the severe fragmentation. Age was estimated on the basis of the method of evaluating the relative thickness of the tables and diploë of skull vault fragments (Gejvall in Sigvallius 1994, 10).
- 6.5.6 The anatomical terminology used in this report is strictly according to the international nomenclature as described by Feneis and Dauber (2000).

Cremation burial (1105)

- 6.5.7 The cremated remains of one adult individual were identified in the material. Age was assessed from skull vault fragments and dental roots.
- 6.5.8 It has been noted that modern cremations results in a bone weight between 1000-3600g (McKinley 2000, 404). The fact that only 17g remained from cremation burial 1105 could either be explained by later truncation, or by the fact that only a certain number of bones from the cremation pyre were collected, the rest perhaps being deposited elsewhere (see Chocol 1958, 582; Lisowski 1968, 79; Wegewitz 1972, 170).
- 6.5.9 A successful cremation, where the temperature exceeds 700°C, is evident from bones with a whitish to white colour (Wahl 1982, 27). The colour of the bones in the cremation burial in this sample ranged from grey-blue to white, indicating a burning temperature of between 500-700°C (Herrmann 1988, 578).
- 6.5.10 In all, 5% of all the fragments and 12% of the 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 19.76 mm in size. The mean weight value per fragment in the burial was only 0.07 g.
- 6.5.11 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; 1961; Herrmann 1972; Lisowski 1968, 78). The bones in 1105 were slightly sooty. However, the small quantity of bone makes it inappropriate to speculate further on burial ritual practises.

Additional contexts with burned bone

- 6.5.12 A few small burnt bone fragments, less than 1g in weight, were found in contexts 1108 and 1504. It was not possible to identify species or retrieve any further osteological data from them.

Statement of potential

- 6.5.13 There is no potential for further analysis of the material. However, if a radiocarbon determination can be obtained from cremation 1105, it will be possible to seek parallels from other contemporary sites in the region.

6.6 Charred plant remains and molluscs

by Seren Griffiths

- 6.6.1 Thirty samples were taken for the recovery of charred plant remains, molluscs and small animal bones. The charred plant samples were processed by floatation using a modified Siraf-type machine, the flot being collected onto a 250 micron mesh. The remaining material was then wet-sieved through a column for the recovery of small bones and artefacts. One litre of each sample taken for molluscs was hand floated onto 500 micron mesh. The residue was washed onto 500 micron mesh and retained. Cremation spits of varying sizes were hand floated onto 250 micron mesh and the residues washed onto 500 micron mesh. The samples and residues were air-dried and the flots scanned under a binocular microscope at Oxford Archaeology. The residues were sorted for bones and artefacts down to 4 mm and the remaining material retained. Initially assessment was undertaken at Oxford Archaeology by the author, and several samples were also scanned by Prof Mark Robinson of the Environmental Archaeology Unit, Oxford University Museum.

Charred plant remains from bulk samples

- 6.6.2 The samples generally produced fairly limited flots given the volume of material processed (c 5-50 ml; see Appendix 3). Grain was frequent in Sample 1 (context 1025) including *Triticum spelta/dicoccum* (spelt/emmer wheat), *Hordeum* sp (barley), and Cerealia indet. The presence of *T. spelta/dicoccum* (spelt/emmer wheat) was also indicated by the glume bases in the chaff assemblage. A range of charred weed seeds were present including *Rumex* spp. (dock), *Gallium aperine* (goose grass), *Pantago lanceolata* (ribwort plantain) and *Polygonum persicaria* (red leg). The flot of sample 6 (context 1195) contained very little charred plant matter other than charcoal. Carbonised cereal chaff was present in the flot in the form of an item of rachis node and a glume base. Although charcoal was present in Samples 6 (context 1195) and 1 (context 1025), there were under five items in Sample 6 (context 1195) and the material was quite comminuted. Semi-vitrified charcoal indicative of high-temperature burning was present in Sample 20 (context 1093). Sample 26 (context

1504) contained a range of often fragmentary charred cereal seeds including *H. vulgare* (six-row hulled barley), *T. spelta/dicoccum* (spelt/emmer wheat) and several Cerealia of indeterminate genus. Other charred material was present in the sample including *Agrostemma githago* (corn cockle) and *Vicia/Pisum* spp. (bean/pea). Chaff was also common in the sample and included both *T. spelta* and *T. dicoccum*. Indeterminate cereal grains were also present in Samples 13 (context 1029) and 12 (1095) and charcoal was also present in these flots. Sample 11 (context 1312) contained items of *Corylus avellana* (hazel) nut shell, as did sample 26 (context 1504).

- 6.6.3 Sample 3 (context 1108) originated from the fill of a pot within Bronze Age ditch 1211. The flot, however, was of very limited volume (*c* 10ml) and evidence of charred material was limited to a few items of small coal/clinker material. Samples 27 and 28 (both context 1108) originated from the same vessel. However in both cases the charcoal was very comminuted (<2 mm) and infrequent (with under 5 items in each sample). Sample 4 (context 1111) originated from a second pot within the same ditch. The charcoal items from this flot were vitrified and highly infused with sediment, although one item of *C. avellana* (hazel) nut shell was clearly discernible. Samples 29 and 30 (context 1111) came from the same vessel, but again the charred material in each sample was <2 mm and less than five items.

Charred plant remains from cremation flots

- 6.6.4 Sample 2 (context 1105) was the remaining material from an undated, truncated cremation. The flot included frequent items of charcoal. Some weed seeds were present as were a number of smashed *Crataegus* spp. (hawthorn) stones. These probably relate to the fuel for the cremation rather than a food offering.

Snails

- 6.6.5 The snail assemblages were dominated by *Cecilioides acicula*, a burrowing species likely to be intrusive and therefore not indicative of contemporary environment. These have not been included in Appendix 3. Non *C. acicula* species were present in Samples 23 (context 1029), 24 (context 1029) 27 (context 1095), 16 (context 1095) and 13 (context 1029). Non *C. acicula* were only frequent in Sample 11 (context 1312) and 20 (context 1093).

Other material

- 6.6.6 Modern insect fragments were present in Samples 1 (context 1025), 6 (context 1195) and 3 (context 1108). Modern weed seeds presenting a range of taxa were common in Sample 1 (context 1025).

Statement of potential

- 6.6.7 A number of contexts are regarded as early Neolithic or middle-late Bronze Age. These samples represent important assemblages, even given the limited volume of charred material. There is currently little data available for early prehistoric crop cultivation in southern England, particularly for Kent, and all relevant ecofacts are

therefore of importance. Weed seeds in this sample may also inform on aspects of the local environment, harvesting methods and seasonality of crop production and hence could have implications for models of sedentism/mobility. The richest flot in terms of charred ecofacts is Sample 26 (context 1504). This probably represents typical late Iron Age/early Roman crop processing waste, although it is interesting given the presence of spelt in this relatively early context.

6.7 Soils and sediments

by Richard Macphail

- 6.7.1 The excavations were visited on the 19th of August 2005 in order to investigate the geoarchaeology. The feature fills were examined (Hodgson 1997) in order to evaluate the feature fills, especially the dark fills of the prehistoric pits.
- 6.7.2 The local mapped soils are typical argillic brown earths formed in aeolian silty drift (brickearth) over Tertiary strata (e.g. Thanet Beds) (Hamble 1 soil association), and these soils have a clay and iron-depleted topsoil and pale upper subsoil Eb horizon, and a darker brown coloured iron and clay-enriched lower subsoil Bt horizon (Jarvis *et al.* 1983; Jarvis *et al.* 1984; Avery 1990).

Neolithic pits

- 6.7.3 An example of an excavated early Neolithic pit was examined (1524). The fill (excavated deposit) is a dark brown (7.5YR3/2) fine loam that includes very fine charcoal, with many pores as evidence of burrowing by fauna. It also displays secondary calcium carbonate. An examination of the base of the feature showed that coarse charcoal had been mixed into the mottled dark yellowish brown (10YR4/6) natural from the pit fill, while the pit fill itself had been completely homogenised by biological activity. It appears that the pit fill was probably an ash-rich dump. Soil micromorphological samples have been taken for further analysis.
- 6.7.4 A number of further probable Neolithic pits were also investigated. The brown to dark brown (7.5YR3/2-4/2) fill of one example (1092) was cut by the more pale brown (7.5YR5/4) fill of a later ditch. The brown to dark brown (7.5YR3/2-4/2) fill of a pit undergoing excavation displayed reddish yellow (7.5YR6/6) mottling/staining. The very fine dark fills seemed to reflect a high fine charcoal content. The reddish yellow staining of the pit fills could represent secondary deposition of (iron?) phosphate.
- 6.7.5 The Neolithic pit fills seem to have a fine cultural component that probably includes charcoal, and may well have had material that was phosphate-rich (bone, ash, latrine waste?). Some dark fills present in the Po Plain of Italy (Terramare sites: http://users.unimi.it/geoarch/congr/gon2_abs.pdf#search='mauro%20cremaschi') that date to the Bronze Age, and Italian Neolithic ditch fills that are currently under study (UCL), which are also extremely rich in phytoliths, are possible analogues to the pit fills at Broadstairs. The cultural origins of the fine dark material could be from cereal processing and/or the burning of hay and cereal-based dung residues, for example.

Middle-late Bronze Age hollow 1013

- 6.7.6 The fill of large, shallow hollow (1013) was examined. The faintly mottled brown to dark brown (7.5YR3/2-4/2) 0.20-0.30 m deep fill appeared to be homogeneous. Such uniform dark fills that show mottling have been identified from other sites as foci of animal/stock activity. Here, some cultural material may be concentrated because it was kicked in by stock and buried within a soil slurry formed by muddy trampling. A micromorphological column has been taken.

Ditches

- 6.7.7 The ditch fills are brown (7.5YR5/4) and are paler than the surrounding mottled dark yellowish brown (10YR4/6) exposed subsoils. This implies infilling by moderately 'leached' Eb horizon soil material. It can also be noted that the ditch fills are a focus for drainage and this has likely exacerbated the leaching effect of these features and their margins.

Statement of potential

- 6.7.8 The Neolithic pit fills are apparently characterised by dark, fine charcoal-rich cultural deposits that probably reflect activities such as possible cereal processing and/or waste management of stock. The fill of the later Bronze Age hollow, meanwhile, may have been formed through processes of animal trampling. These deposits are best studied through soil micromorphology and bulk studies of organic matter (LOI), fractionated P and magnetic susceptibility (including measurements of χ_{\max} : Crowther and Barker 1995; Macphail and Crowther 2002; Crowther 2003; Macphail and Crowther 2004; Macphail *et al.* 2004).

7 REVISED RESEARCH AIMS

7.1 Research context

- 7.1.1 The original research aims defined at the outset of the project were as follows:

- To establish a relative and absolute chronological framework for the site, giving priority to establishing an overall plan of the site and determining the various phases and sub-phases of activity.
- To determine the internal morphology of the site and land-use, to identify the nature, date and range of zones of activity (residential, industrial, religious, etc), and to determine the dynamics of the spatial distribution of activities and changes over time.
- To clarify the character, nature, date and the extent of remains associated with the early prehistoric (especially Neolithic) activity recorded during the evaluation, and to address the spatial organisation of the activity through the analyses of the distributions of artefactual and environmental assemblages.

- To determine the environmental history of the site and its immediate surrounding area throughout the sequence of human activity on the site.
 - To support the detailed assessment of the chronology of the artefactual and environmental material with a programme of radiocarbon samples if possible.
 - To enhance the understanding of the prehistoric occupation of Thanet through the examination of the date, form and character of the activity within its local, regional and national context.
 - To make available the results of the research.
- 7.1.2 The post-excavation assessment has gone some way towards addressing these points, but has also raised further issues and questions. A list of more specific research aims will be presented here, which build upon the original objectives. Unfortunately, no formal archaeological resource assessment or research agenda is yet available for Kent. However, recent publications (particularly the *Historical Atlas of Kent*: Lawson and Killingray 2004) have been consulted in order to identify research priorities.
- 7.1.3 More work on the nature of early Neolithic occupation within the region is clearly desirable, as sites of this period are relatively uncommon, with only a few excavated examples from Kent (Ashbee 2004). More specifically, while it is well established that early Neolithic sites across southern England are typically characterised by clusters of pits, the purpose of these pits and the processes by which they came to be filled has recently been highlighted as an issue requiring further research (Garrow *et al.* 2005).
- 7.1.4 Substantial evidence has emerged in recent years for later Bronze Age occupation and land division on Thanet. The island has been described as a ‘hotspot’ of settlement, agricultural intensification and metalwork deposition during the mid to late second millennium BC. The significance of the area may possibly relate to its role as a ‘gateway zone’ for interaction with the Continent (Yates 2001; 2004). Our understanding of the nature of this ‘hotspot’ is incomplete, however, as there has been little work on investigating issues such as the relationships between the different classes of site (field systems, settlements and ritual sites).
- 7.1.5 Recent work has revealed that the Isle of Thanet was densely occupied during the late Iron Age and Roman period (Andrews 2004, 21; Parfitt 2004, 18; Perkins 2001, fig. 2). Perkins has made a provisional attempt at reconstructing the settlement pattern on the island, and has shown that Roman Thanet is “an area with a high potential for study” (*ibid.*, 51). In this context, further work on elucidating the late Iron Age to Roman period landscape of the island is clearly of value.

7.2 Specific research aims

- 7.2.1 What ‘absolute’ date range (calibrated radiocarbon years) can be given to the Neolithic occupation and the Bronze Age field system? (Method statement 8.2)

- 7.2.2 What is the relationship of the Neolithic and Bronze Age activity to the occupation immediately to the east at Thanet Reach Business Park? (Method statement 8.1)
- 7.2.3 What depositional practices lay behind the formation of the Neolithic pit fills, and what does this imply about the nature of the Neolithic occupation? (Method statements 8.3, 8.4, 8.5 and 8.6)
- 7.2.4 What do the artefact and ecofact assemblages from the Neolithic pits imply about the activities taking place at the site? In particular, can flint knapping sequences be reconstructed? (Method statements 8.3, 8.4 and 8.5)
- 7.2.5 What does the environmental evidence indicate about how the Bronze Age field system and associated features were used? Specifically, is there any evidence for whether the field system was under arable or pastoral use? (Method statements 8.5 and 8.6)
- 7.2.6 How does the field system compare to the later Bronze Age land division elsewhere on Thanet, and in the wider region? (Method statement 8.1)
- 7.2.7 Do the two Bronze Age vessels found in ditch 1211 represent a 'ritual' deposit, and can similar deposits be identified at other contemporary sites in the region? (Method statements 8.1 and 8.4)
- 7.2.8 Can the nature of the late Iron Age/early Romano-British enclosure system be elucidated, with reference to the cropmark evidence from the environs? (Method statement 8.1)
- 7.2.9 What is the nature of the crop processing associated with the late Iron Age/early Romano-British enclosure system? (Method statement 8.5)
- 7.2.10 What is the date of the cremation burial, and how does it relate to the prehistoric/Romano-British occupation of the site? (Method statements 8.1 and 8.2)

8 METHOD STATEMENT

8.1 Stratigraphy

- 8.1.1 The phasing of the site will be finalised, using the results of the radiocarbon dating and the full analysis of the ceramics and flintwork. The relationship of the site to the prehistoric occupation at Thanet Reach Business Park and to cropmark evidence from the area will be considered. The site will also be compared to relevant contemporary sites within the wider region. Parallels will be sought for the undated posthole alignments.

8.2 Radiocarbon dating

- 8.2.1 It is recommended that four samples be submitted for radiocarbon dating. These should include carbonised plant remains from Neolithic pits 1092 and 1524 and from undated cremation 1104, and charred residue from one of the vessels from later

Bronze Age ditch 1211. The samples will be submitted for AMS dating to the Rafter laboratory in New Zealand.

8.3 Worked flint

8.3.1 Although the presence of flint in the earlier Neolithic pits suggests activity at the site during this period, further work is not recommended for this material due to the small number of pieces recovered. However, further work should be carried out on the assemblage from early Neolithic pit 1524 from the evaluation stage of the project. The assemblage should be fully recorded, and technological and metrical analysis and refitting should then be undertaken. This will allow a better understanding of the assemblage and provide a comparison to the later material.

8.3.2 The bulk of the material from the excavation should be re-considered in the light of more detailed phasing information. Technological and metrical analysis will contribute to a better understanding of the later Neolithic and Bronze Age flint industries and may highlight differences in chronology or the use of raw material between different features on the site.

8.4 Pottery

8.4.1 A short publication report should be produced, incorporating the material from the evaluation. The middle to late Bronze Age vessels should be refitted, and regional parallels sought. The early Neolithic and middle to late Bronze Age vessels should be illustrated.

8.5 Human bone

8.5.1 The assessment report should be edited into a publication report, taking into account the possible radiocarbon date. A wider discussion should be added.

8.6 Charred plant remains and molluscs

8.6.1 Charred material from multiple contexts on the same site of Neolithic or Bronze Age date is relatively rare. This is especially true of assemblages not solely comprising charcoal. It is recommended that Samples 1 (context 1025), 2 (1105), 4 (1111) and 26 (1504) undergo further analysis of the charred plant materials. Moreover, the two samples recovered during the evaluation from early Neolithic pit 1524 would be worth including in the analysis. Samples 16 (context 1095), 17 (1095), 23 (1029) and 24 (1029) are recommended for further analysis of the snail assemblage.

8.7 Soils and sediments

8.7.1 It is recommended that thin sections and supporting chemical/magnetic analysis is undertaken on the following features/samples

- Neolithic pit [1524], sample <5> (if suitable soil clasts are available): 1x thin section
- Neolithic pit [1093], monolith <21> for comparative purposes: 1x thin section
- M-LBA feature/hollow [1013], monolith <22>: 2x thin sections

8.8 Illustrations of plans, sections and finds

- 8.8.1 A number of plans and sections will need to be produced in order to provide the necessary level of detail for the report. These will include both phase plans and detailed plans and sections.
- 8.8.2 As the finds assemblage from the site is relatively limited, only a small quantity of finds will need to be illustrated. These will comprise approximately eight items of worked flint and ten items of pottery. The recommended number of objects to be illustrated is in accordance with normal conventions for assemblages of this size, and should come to approximately two pages.
- 8.8.3 Time will be needed for producing drawing briefs and for checking the illustrations as they are produced.

8.9 Project management, monitoring and review

- 8.9.1 Alex Smith will manage the project with support from Leo Webley, and internal monitoring by Alistair Barclay. Paul Backhouse will undertake drawing office management. IT support will be provided by Paul Miles. Rebecca Nicholson will undertake environmental management. Leigh Allen and Nicola Scott will undertake finds and archive administration.

8.10 Report assembly and editing

- 8.10.1 The reports will be assembled and checked against the illustrations by Leo Webley and Alex Smith. Individual contributors will check draft publication texts. Alex Smith or another appropriate Senior Project Manager will carry out substantive editing.

8.11 Archives

- 8.11.1 Oxford Archaeology's archiving standards will be adhered to at all times with regards to project documentation and materials used will be suitable for archiving. All post-excavation documentation will be filed, ordered and indexed as part of the research archive. This will be sent for microfiching and then submitted to the National Monuments Record. After completion of the project the archive will be stored at the OA finds depot at Standlake until an adequate storage facility is provided in Kent.
- 8.11.2 The digital archive (all relevant databases, CAD plans, illustrations, spreadsheets, word-processing documents) will be prepared by OA staff with appropriate documentation and metadata.

9 PUBLICATION

9.1 Format

- 9.1.1 The results of the excavation are worthy of publication in the form of a journal article. The county archaeological journal, *Archaeologia Cantiana*, would be the most appropriate vehicle.

9.2 Publication synopsis

| | <i>Estimated word length</i> |
|----------------------------------|------------------------------|
| Abstract | 200 |
| Introduction | 300 |
| Archaeological background | 300 |
| Stratigraphy | |
| Early Neolithic | 500 |
| Middle-late Bronze Age | 1000 |
| Late Iron Age- Roman period | 500 |
| Radiocarbon dates | 300 |
| Artefacts and environmental data | |
| Worked flint | 1500 |
| Pottery | 1000 |
| Other artefacts | 50 |
| Human remains | 700 |
| Charred plant remains/molluscs | 1000 |
| Soils and sediments | 1000 |
| Discussion | 2000 |
| Acknowledgements | 100 |
| Bibliography | 1000 |
| <i>TOTAL</i> | 11,450 |

10 RESOURCES AND PROGRAMMING

10.1 Project team and management responsibilities

10.1.1 The project team is set out in the table below.

| Name | | Responsibilities |
|-----------------------------|-----|--|
| Alex Smith | OA | Project manager, editor |
| Leo Webley | OA | Stratigraphy, analysis and interpretation |
| A Barclay | OA | Pottery; publications manager/project monitor |
| Jonny Geber | OA | Human bone |
| Rebecca Nicholson | OA | Environmental management |
| Leigh Allen | OA | Finds manager |
| Nicola Scott | OA | Archive manager |
| Paul Miles | OA | IT manager/support |
| Dana Challinor | OA | Charcoal |
| Rebecca Devaney | OA | Flint |
| Denise Druce | OA | CPR |
| Illustrator | OA | Site and finds illustrations |
| Ellie Bedford | OA | Archive assistant |
| Rose Grant | OA | Finds assistant |
| Technician | OA | Processing environmental samples and finds transport |
| CAD technician | OA | CAD |
| External specialists | | |
| R MacPhail | UCL | Micromorphology |

10.2 Task list

| Task | Task Description | Performed by | Days |
|-------------|--|--------------|------|
| 1000 | Management 2005 | | |
| 1001 | Project Management | A Smith | 4 |
| 1002 | Project Monitoring | A Barclay | 0.5 |
| 1003 | Liase with Specialists | L Webley | 1 |
| 1004 | Finds Management | L Allen | 0.5 |
| 1005 | Finds administration | R Grant | 0.5 |
| 1006 | Archive Management | N Scott | 0.5 |
| 1007 | Environmental Management | R Nicholson | 0.5 |
| 1008 | Library Time | L Webley | 2 |
| 1009 | IT Support | P Miles | 0.5 |
| 2000 | Stratigraphy and Illustrations | | |
| 2001 | Co-ordinate C14 samples with enviro dept | L Webley | 0.5 |
| 2002 | Complete CAD plan | CAD | 3 |
| 2003 | Finalise phasing | L Webley | 2 |
| 2004 | Descriptive text | L Webley | 4 |
| 2005 | Distribution plots (artefacts/ecofacts) | L Webley | 1 |
| 2006 | Prepare plans/ sections dwg briefs | L Webley | 0.5 |
| 2007 | Produce site plans and sections | Illustrator | 5 |
| 2008 | Check plans/ figures | L Webley | 0.5 |
| 2009 | Corrections to illustrations | Illustrator | 0.5 |
| 2010 | Select photographs | L Webley | 0.25 |

| | | | |
|-------------|--|-------------|-----|
| 3000 | Finds | | |
| 3001 | Flint: Incorporation of the material from the evaluation | R Devaney | 0.5 |
| 3002 | Flint: Scanning the environmental residues | R Devaney | 0.5 |
| 3003 | Flint: Technological and metrical analysis | R Devaney | 1.5 |
| 3004 | Flint: Final report | R Devaney | 2 |
| 3005 | Flint: Illustration (c 8 pieces) | Illustrator | 2 |
| 3006 | Pottery: Prehistoric pottery analysis and report | A Barclay | 2 |
| 3007 | Pottery: Roman and later pottery analysis and report | E Biddulph | 1 |
| 3008 | Pottery: Illustration | Illustrator | 2 |
| 4000 | Finds Environmental | | |
| 4001 | CPR sorting | Technician | 2 |
| 4002 | CPR analysis | D Druce | 3 |
| 4003 | Charcoal analysis | D Challinor | 2 |
| 4004 | Mollusc analysis | L Stafford | 1 |
| 4005 | Edit Human bone report and add discussion | J Geber | 1.5 |
| 4006 | Monolith description/ sub-sampling (2 @ £62.5) | R Macphail | - |
| 4007 | Thin section production (4 @ £75) | R Macphail | - |
| 4008 | Analysis (@ £125/day) | R Macphail | 4 |
| 4009 | Report (@ £125/day) | R Macphail | 2 |
| 4010 | Chemical analysis (X, Xmax, Xconv, Total P, LOI) (4 @ £45) | R Macphail | - |
| 4011 | Radiocarbon dates (4 @ £350) | Rafter Lab | - |
| 5000 | Report Assembly, Production and Editing | | |
| 5001 | Assemble specialist reports | L Webley | 2 |
| 5002 | Produce report and discussion | L Webley | 5 |
| 5003 | Edit report | A Smith | 2 |
| 5004 | Corrections | L Webley | 0.5 |
| 5005 | Proof reading/copyedit | A Smith | 1 |
| 6000 | Archives and Finds Deposition | | |
| 6001 | Preparation of digital archive | P Miles | 0.5 |
| 6002 | Microfilm research archive | E Bedford | 0.5 |
| 6003 | Assemble paper archive | E Bedford | 1 |
| 6004 | Finds deposition | L Allen | 0.5 |
| 6005 | Finds deposition: transport | Technician | 1 |

10.3 Costs

| Costs 2005/6 | | | | |
|--|-------------|-------------|-------------|-------------------|
| OA Staff | | Days | Rate | Cost |
| Project Manager | A Smith | 7 | £250.00 | £1,750.00 |
| Project Officer | L Webley | 19.25 | £181.00 | £3,484.25 |
| Publications Manager/pottery | A Barclay | 2.5 | £250.00 | £625.00 |
| Finds Manager | L Allen | 1 | £230.00 | £230.00 |
| Archives Manager | N Scott | 0.5 | £181.00 | £90.50 |
| Environmental Manager | R Nicholson | 0.5 | £235.00 | £117.50 |
| IT Support/Management | P Miles | 1 | £235.00 | £235.00 |
| Specialist | E Biddulph | 1 | £181.00 | £181.00 |
| Specialist | D Druce | 3 | £205.00 | £615.00 |
| Specialist | L Stafford | 1 | £181.00 | £181.00 |
| Specialist | D Challinor | 2 | £181.00 | £362.00 |
| Specialist | J Geber | 1.5 | £181.00 | £271.50 |
| Specialist | R Devaney | 4.5 | £160.00 | £720.00 |
| CAD | tba | 3 | £160.00 | £480.00 |
| Illustrator | tba | 9.5 | £160.00 | £1,520.00 |
| Technician | tba | 3 | £120.00 | £360.00 |
| Finds | R Grant | 0.5 | £120.00 | £60.00 |
| Archives | E Bedford | 1.5 | £120.00 | £180.00 |
| Total salary costs for year | | | | £11,462.75 |
| External Specialists | | | | |
| Soil Micromorphology | R Macphail | 6 | £125.00 | £750.00 |
| Monolith description/ sub-sampling (2 @ £62.5) | R Macphail | | | £125.00 |
| Thin section production (4 @ £75) | R Macphail | | | £300.00 |
| Chemical analysis (4 @ £45) | R Macphail | | | £180.00 |
| Radiocarbon dates (4 @ £350) | Rafter Lab | | | £1,400.00 |
| Total specialist fees for year | | | | £2,755.00 |
| Non Staff-Costs | | | | |
| Transport | | | | £100.00 |
| Computer/graphics consumables | | | | £50.00 |
| Publication costs for Journal (c 30 pages @£30/page) | | | | £900.00 |
| Total non-staff costs for year | | | | £950.00 |
| Total Cost | | | | £15,267.75 |

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APPENDICES

APPENDIX 1 POTTERY CATALOGUE

| Ctx | Feature | Feature Type | Phase | Count | Weight (g) | Comment |
|--------------|---------|--------------|------------|-------|------------|---|
| 1001 | | Subsoil | | 5 | 66 | mixed preh and later |
| 1006 | 1005 | Ditch | LIA/Roman | 1 | 13 | Sandy grey ware body sherd, a ?Canterbury fabric |
| 1010 | 1009 | Pit | Later BA | 26 | 103 | Base and body sherds possibly from a Bucket Urn |
| 1014 | 1013 | Pit | Later BA | 10 | 21 | Indeterminate because of small size of fragments, possibly later Bronze Age |
| 1025 | 1024 | Pit | ?Later BA | 100 | 290 | Bucket Urn sherds including a base fragment |
| 1029 | 1028 | Ditch | ?LIA/Roman | 7 | 36 | Flint-tempered body sherds |
| 1048 | | | | 3 | 9 | No visible temper, hand made and low-fired, possibly MIA |
| 1052 | 1051 | Pit | ?Early Neo | 13 | 37 | ?Early Neolithic plain body sherds |
| 1068 | 1013 | Pit | Later BA | 36 | 230 | Bucket Urn sherds including a base fragment |
| 1095 | 1094 | Ditch | ?Later BA | 16 | 48 | Residual early Neolithic. Mostly plain body sherds |
| 1107 | 1106 | Ditch | Later BA | 133 | 540 | Substantially complete but fragmented flint-tempered jar. The rim form could indicate an EIA rather than LBA date |
| 1110 | 1109 | Ditch | Later BA | 137 | 1075 | Fragmentary ?Bucket Urn. Other vessels could be present as well. |
| 1135 | 1134 | Ditch | ?Later BA | 1 | 2 | Indeterminate ?later prehistoric |
| 1223 | 1214 | Ditch | Later BA | 1 | 3 | ?MLBA plain body sherd |
| 1271 | 1270 | Ditch | ?Later BA | 1 | 4 | Single plain body sherd, flint and sand temper, could be early Neolithic |
| 1347 | 1349 | Pit | ?Later BA | 24 | 60 | Mostly flint-tempered body sherds. Some sherds have organic temper. Probably LBA. |
| 1411 | 1410 | Tree throw | ?Later BA | 7 | 31 | Body sherds from at least two early Neolithic vessels |
| 1422 | 1421 | Pit | Early Neo | 15 | 10 | Fragments all from a single vessel, includes part of a rim from an early Neolithic decorated bowl |
| 1469 | 1465 | Pit | Early Neo | 1 | 11 | Single plain body sherd, flint temper, could be early Neolithic |
| 1473 | 1471 | Pit | Early Neo | 19 | 308 | Plain body sherds from one or more early Neolithic vessels |
| 1504 | 1503 | Ditch | LIA/Roman | 1 | 2 | Lpreh. indeter. |
| 1512 | 1513 | Ditch | LIA/Roman | 18 | 35 | 'Belgic' grog-tempered body sherds |
| 1515 | 1514 | Ditch | LIA/Roman | 6 | 15 | 'Belgic' grog-tempered body sherds |
| Total | | | | 581 | 2949 | |

APPENDIX 2 WORKED FLINT CATALOGUE

| Context | Blade | Bladelet | Disc scraper | End and side scraper | End scraper | Flake | Irregular waste | Leaf-shaped arrowhead | Miscellaneous retouch | Multi-platform flake core | Probable knife | Side scraper | Single platform flake core | Unclassifiable/ fragmentary core | Total |
|---------|-------|----------|--------------|----------------------|-------------|-------|-----------------|-----------------------|-----------------------|---------------------------|----------------|--------------|----------------------------|----------------------------------|-------|
| 1001 | 2 | | | | | 30 | | | 1 | | | | | 3 | 36 |
| 1008 | | | | | | | 1 | | | | | | | | 1 |
| 1010 | | | | | | 5 | | | | | | | | | 5 |
| 1012 | | | | | | 2 | | | | | | | | | 2 |
| 1014 | | | | | | 1 | | | | | | | | | 1 |
| 1016 | | | | | | 2 | | | | | | | | | 2 |
| 1020 | | | | | | 1 | | | | | | | | | 1 |
| 1022 | | | | | | 2 | | | | | | | | | 2 |
| 1025 | | | | 1 | | | | | | 1 | | | | | 2 |
| 1029 | | | | | | 3 | | | | 1 | | | | | 4 |
| 1034 | | | | | | 1 | | | | | | | | | 1 |
| 1036 | | | | | | 1 | | | | | | | | | 1 |
| 1042 | | | | | | 5 | 1 | | | | | | | | 6 |
| 1044 | | | | | | 2 | | | | | | | | | 2 |
| 1048 | 1 | | | | | 6 | | | | | | | | | 7 |
| 1049 | | | | | | 1 | | | | | | | | | 1 |
| 1050 | | | | 1 | | | | | | | | | | | 1 |
| 1068 | 1 | | | | 1 | 4 | | | | | | 1 | | | 7 |
| 1074 | | | | | | 1 | | | | | | | | | 1 |
| 1083 | | | | | | 27 | 2 | | | | | | | | 29 |
| 1085 | | | | | | 1 | | | | | | | | | 1 |
| 1093 | 3 | | | | | 9 | | | | | | | | | 12 |
| 1095 | 1 | | | | 1 | 4 | | | | | | | | | 6 |
| 1096 | | | | | | 2 | | | | | | | | | 2 |
| 1099 | | | | | | 5 | 1 | | | | | | | 1 | 7 |
| 1101 | | | | | | 7 | 2 | | | | | | | | 9 |
| 1108 | | | | | | 1 | | | | | | | | | 1 |
| 1115 | | | | | | 1 | | | | | | | | | 1 |
| 1125 | | | | | | 3 | | | | | | | | | 3 |
| 1127 | | | | | | 1 | | | | | | | | | 1 |
| 1129 | | | | | | 1 | | | | | | | | | 1 |
| 1139 | | | | | | 4 | | | | 1 | | | | | 5 |
| 1141 | 1 | | | | | 7 | | | | | | | | | 8 |
| 1144 | | | | | | 6 | | | | | | | | | 6 |
| 1171 | | | | | | 3 | | | | | | | | | 3 |
| 1175 | | | | | | 1 | | | | | | | | | 1 |
| 1177 | | | | | | 2 | | | | | | | | | 2 |
| 1179 | | | | | | 1 | | | | 1 | | | 1 | | 3 |
| 1188 | | | | | | 2 | | | | | | | 1 | | 3 |
| 1198 | | | | | | 1 | | | | | | | | | 1 |
| 1203 | | | | | | 3 | | | | | | | | | 3 |
| 1217 | | | | | | 1 | | | | | | | | | 1 |
| 1219 | | | | | | 1 | | | | | | | | | 1 |

| | | | | | | | | | | | | | | | | |
|--------------|-----------|----------|----------|----------|----------|------------|----------|----------|----------|----------|----------|----------|----------|----------|--|------------|
| 1220 | 1 | | | | | | | | | | | | | | | 1 |
| 1221 | | | | | | | | | | 1 | | | | | | 1 |
| 1222 | | | | | | 2 | | | | | | | | | | 2 |
| 1230 | | | | | | 2 | | | | | | | | | | 2 |
| 1235 | | 1 | | | | 3 | | | | | | | | | | 4 |
| 1250 | | | | | | 1 | | | | | 1 | | | | | 2 |
| 1251 | | | | | | | | 1 | | | | | | | | 1 |
| 1271 | | | | | | 4 | | | | | | | | | | 4 |
| 1274 | | | | | | 3 | | | | | | | | | | 3 |
| 1347 | | | | | | 7 | | | | 1 | | | | | | 8 |
| 1352 | | | | | | 5 | | | | | | | | | | 5 |
| 1380 | | | | | | 3 | | | | | | | | | | 3 |
| 1384 | | | | | | 2 | | | | | | 1 | | | | 3 |
| 1407 | | | 1 | | | | | | | | | | | | | 1 |
| 1411 | 1 | | | 1 | | 5 | | | | | | | | | | 7 |
| 1414 | | | | | | 1 | | | | | | | | | | 1 |
| 1420 | | | | | | 2 | | | | | | | | | | 2 |
| 1429 | | | | | | 1 | | | | | | | | | | 1 |
| 1441 | 1 | | | | | 2 | | | | | | | | | | 3 |
| 1450 | 1 | | | | | | | | | | | | | | | 1 |
| 1469 | 1 | | | | | | | | | | | | | | | 1 |
| 1473 | | | | | | 6 | | | | | | | | | | 6 |
| 1478 | 1 | | | | | | | | | | | | | | | 1 |
| 1504 | 1 | 1 | | | | 7 | | | | 2 | | | | | | 11 |
| 1506 | | | | | | 2 | | | | | | | | | | 2 |
| 1508 | | | | | | 1 | | | | | | | | | | 1 |
| 1512 | | | 1 | 1 | 1 | 25 | 2 | | | 1 | | | | | | 31 |
| 1515 | | | | | | 2 | | | | | | | | | | 2 |
| Total | 16 | 2 | 2 | 4 | 3 | 247 | 9 | 1 | 1 | 9 | 1 | 2 | 2 | 4 | | 303 |

APPENDIX 3 ENVIRONMENTAL DATA

Key: +=present (up to 5 items), +=frequent (5-25), +++=common (25-100)

| Sample No | Context No | Flot vol. (ml) | Type of context | Charcoal | Grain | Chaff | Weeds | Other charred | Molluscs (non <i>C. acicula</i>) | Volume floated (litres) | Notes |
|-----------|------------|----------------|---------------------------|--------------------|--|--|--|--|-----------------------------------|-------------------------|--|
| 1 | 1025 | 50 | M-LBA pit | ++ | ++ <i>T. spelta/ dicoccum</i> (spelt/ emmer wheat), a possible incidences of <i>Hordeum</i> sp (barley), and Graminae (non domesticated grasses). | ++ inc sproutlet, ?germinated grain, <i>T. spelta/ dicoccum</i> (spelt/emmer wheat) glume base | ++-range of taxa, non-edible leumes<2 mm | + | + | 40 | Worm eggs, <i>C. acicula</i> +++, modern insects frags+, modern weed seeds +++-range of taxa |
| 2 | 1105 | 40 | Undated cremation | ++ | | | + | ++ legumes | | | |
| 3 | 1108 | 10 | Fill of M-LBA vessel 1107 | ?+ coal/clinker | | | | | | | |
| 4 | 1111 | 30 | Fill of M-LBA vessel 1110 | + | | | | + <i>C. avellana</i> (Hazel) nut shell | | | |
| 5 | 1193 | 10 | Early Neolithic pit 1524 | ?+ coal/clinker | | | | | | | |
| 6 | 1195 | 30 | Pit, ?Neolithic | + quite comminuted | | + inc rachis node, glume base | | | + | 40 | <i>C. acicula</i> +++, modern insect frags + |
| 11 | 1312 | 30 | Pit, undated | + | | | | + <i>C. avellana</i> (Hazel) nut shell | ++ | | |

| Sample No | Context No | Flot vol. (ml) | Type of context | Charcoal | Grain | Chaff | Weeds | Other charred | Molluscs (non <i>C. acicula</i>) | Volume floated (litres) | Notes |
|-----------|------------|----------------|-------------------------|------------------------------|---|---------------|---|--|-----------------------------------|-------------------------|-------------------------------------|
| 12 | 1095 | 40 | M-LBA ditch | ++ | | + highly frag | | | + | | |
| 13 | 1029 | 20 | Ditch, ?LIA/early Roman | + | ?+ | + | | | + | | |
| 14 | 1095 | 5 | M-LBA ditch | +<2mm | | | | | | | |
| 15 | 1095 | 5 | M-LBA ditch | +<2mm | | | | | | | Modern weed seeds |
| 16 | 1095 | 7 | M-LBA ditch | + | | | | | | | Modern plant matter |
| 17 | 1095 | 7 | M-LBA ditch | + | | | | | | | |
| 18 | 1095 | 10 | M-LBA ditch | + | | | | | | | |
| 19 | 1095 | 5 | M-LBA ditch | + some twiggy charc | | | | | | | |
| 20 | 1093 | 30 | Pit, ?Neolithic | + semi-vitrified, high temp. | | | | | ++ | | |
| 23 | 1029 | 15 | Ditch, ?LIA/early Roman | + | | | | | + | | |
| 24 | 1029 | 10 | Ditch, ?LIA/early Roman | | | | | | + | | One charred element highly vitreous |
| 25 | 1029 | 10 | Ditch, ?LIA/early Roman | +<2mm | | | | | | | |
| 26 | 1504 | 40 | LIA/early Roman ditch | | ++ often frag. <i>Hordeum</i> sp (barley), <i>T. spelta/ dicoccum</i> (spelt/emmer wheat) and oat/brome grass | +++ | ++ <i>Agrostema githago</i> (Corn | ++ <i>Vicia/Pisum</i> spp. (bean/pea) | | | |

| Sample No | Context No | Flot vol. (ml) | Type of context | Charcoal | Grain | Chaff | Weeds | Other charred | Molluscs (non <i>C. acicula</i>) | Volume floated (litres) | Notes |
|-----------|------------|----------------|------------------------|----------|-------|-------|---------|---------------|-----------------------------------|-------------------------|-------|
| | | | | | | | Cockle) | | | | |
| 27 | 1108 | 10 | Fill of M-LBA pot 1107 | | | | | | | | |
| 28 | 1108 | 10 | Fill of M-LBA pot 1107 | +<2mm | | | | | | | |
| 29 | 1111 | 10 | Fill of M-LBA pot 1110 | +<2mm | | | | | | | |
| 30 | 1111 | 10 | Fill of M-LBA pot 1110 | +<2mm | | | | | | | |

APPENDIX 4 SUMMARY OF SITE DETAILS

Site name: Land adjacent to Tesco Extra, Westwood, Broadstairs, Kent

Site code: BRRP05

Grid reference: TR 367 677

Type of fieldwork: Excavation (strip, map and sample)

Date and duration of project: 26th July - 16th September 2005

Area of site: 1.5 ha

Summary of results: Oxford Archaeology carried out an excavation between July and September 2005 at land adjacent to Tesco Extra, Margate Road, Broadstairs, Kent, for CgMs Consulting on behalf of Spenhill Developments. Three phases of activity were revealed. A cluster of early Neolithic pits occurred in the southern part of the excavated area, producing small amounts of pottery and worked flint. This pit cluster was overlain by a field system of probable later Bronze Age date. The latest activity consisted of an enclosure system belonging to the late Iron Age/early Roman period. Undated features included an unurned cremation burial and two posthole alignments.

Location of archive: The archive is currently held at OA, Janus House, Osney Mead, Oxford, OX2 0ES.



Scale 1:25,000

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Figure 1: Site location

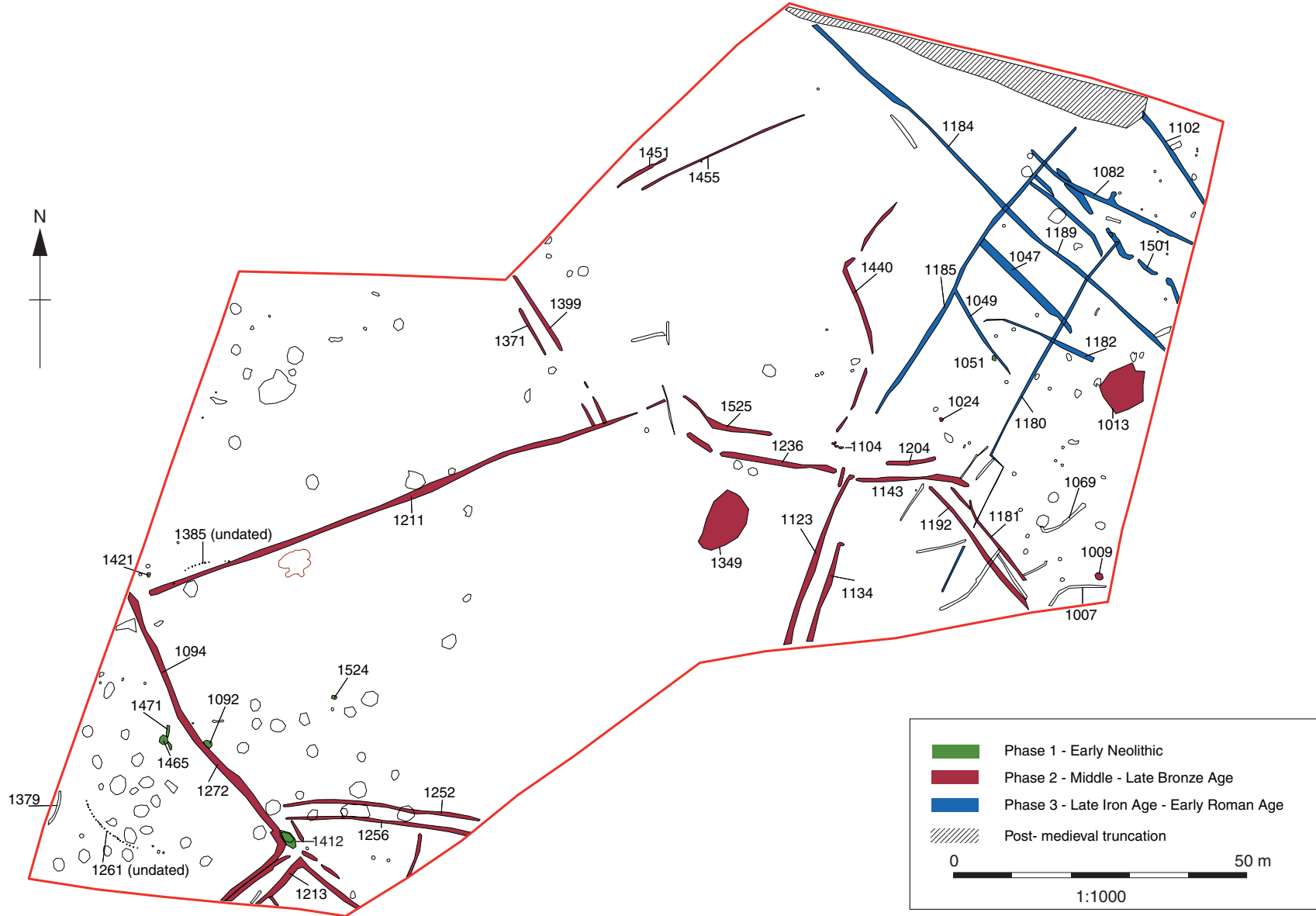


Figure 2 : Phase plan