

**CHANNEL TUNNEL RAIL LINK
UNION RAILWAYS (SOUTH) LIMITED**

Project Area 420

**Archaeological Excavation at
Sandway Road (ARC SWR99),
near Sandway, Kent**

**DETAILED ARCHAEOLOGICAL WORKS
ASSESSMENT REPORT
FINAL**

**Contract no. URS/400/ARC/0001
WA Report no. 48107a**

**Wessex Archaeology
Portway House
Old Sarum Park
Salisbury
Wiltshire
SP4 6EB**

13th August 2001

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SUMMARY

Wessex Archaeology was commissioned by Union Railways (South) Limited to undertake an excavation at Sandway Road (URS site code ARC SWR99). The site was located on the Sandway Road, between the villages of Harrietsham to the north-west and Sandway to the south-east, near Maidstone, Kent, the work forming part of an extensive programme of archaeological investigation carried out in advance of the construction of the Channel Tunnel Rail Link. The excavation had been preceded by an Environmental Assessment, geophysical survey and machine trench evaluation. The fieldwork was carried out between April 4th and May 28th 1999, after which a targeted watching brief was carried out in two areas to the south-east of the excavation.

The stratigraphic sequence generally encountered comprised topsoil overlying colluvial deposits, overlying *in situ* Folkestone Sand. The colluvium was up to 0.5 m thick, containing occasional pieces of worked flint and prehistoric pottery. It was thickest in two zones, at the base of the slope on which the site was located and against the south-east (upslope) side of the field boundary that defined the brow of a terrace overlooking the slope noted above and that formerly divided the site into two areas.

During the course of the evaluation and excavation 70 features were identified and excavated. These comprised eight ditches, four pits, three possible hearth pits, two artefact scatters, 43 probable tree-throws, nine amorphous irregular features filled with burnt material (possibly representing burnt-out tree stumps) and one irregular feature of indeterminate function (though probably natural). The watching brief revealed a further six ditches (or gullies), three possible pits, one modern? post-hole, 11 tree-throws and three burnt-out tree stumps.

Mesolithic remains included a 3 m diameter subcircular pit, two smaller subcircular shallower pits, two large irregular flint scatters and a feature of indeterminate form, with Earlier Neolithic features represented by a large ditch/pit and tree-throw. Middle Neolithic features include a large pit, burnt-out tree stump and two tree-throws (one previously recorded in evaluation trench 3577TT).

Middle Bronze Age remains comprised two ditches that appear to form a coherent part of a field system. Late Bronze Age/ Early Iron Age features included a single pit (only observed in evaluation trench 3632TT), and a sequence of five intercutting ditches recorded during the targeted watching brief to the south-east of the excavation area. Other similarly dated features also recorded during the watching brief included a burnt-out tree stump and tree-throw. Late Iron Age/ Early Romano-British remains comprised a single burnt-out tree stump, whilst medieval remains included a pair of parallel ditches, co-aligned with the Middle Bronze Age ditches, and a small pit recorded during the watching brief.

Although the Environmental Assessment highlighted the recovery of Mesolithic worked flint to the west and south-west of the site, little else is known about the prehistoric development of the area. As such, the site offers a rare opportunity to study land-use of an area, particularly during the late Mesolithic, Neolithic and Bronze Age periods.

In particular, the Mesolithic remains offer an unparalleled opportunity to study not only the lithic industry of the area, but also the environment and local economy at that time. If, as suggested by elements observed within the lithic assemblage, this site does indeed represent a transitional phase between hunter-foragers and the early agriculturists then the potential of this site may extend even beyond a regional framework. As a result of the comprehensive sampling strategy, it may be possible to augment such analysis with a further suite of reliable radiocarbon dates.

1 INTRODUCTION

1.1 Project Background

1.1.1 Wessex Archaeology (WA) was commissioned by Union Railways (South) Limited (URS) to undertake a 'Strip, Map and Sample' excavation at **Sandway Road**, under the URS site code **ARC SWR99** (Project Area 420). The site is located on the Sandway Road, between the villages of Harrietsham to the north-west and Sandway to the south-east, near Maidstone, Kent (**Figure 1 - inset**).

1.1.2 This work formed part of an extensive programme of archaeological investigation carried out in advance of the construction of the Channel Tunnel Rail Link (CTRL). The archaeological Written Scheme of Investigation (URS 1999a) was prepared by Rail Link Engineering (RLE), agreed in consultation with English Heritage and Kent County Council, acting on behalf of the Local Planning Authorities.

1.1.3 The fieldwork was carried out between April 4th and May 28th 1999.

The Site

1.1.4 The excavation area comprised a trapezoidal sub-triangular area aligned north-west to south-east (apex of the triangle to the north-west), measuring up to c.130 m by 60 m and covering an area of c. 0.8 hectares centred on URL grid co-ordinate 67980 31640 (OS NGR TQ 87975 51642; **Figure 1**). Overall, the approximate length of the principle site zone, including all associated Fieldwork Events (**Table 1**) was 1.3 km.

1.1.5 Although the excavation area was formerly divided into two plots, the boundary between these fields was removed within the excavation limits during stripping and as such the excavation is considered as one area. In addition, a subrectangular compound area measuring c. 20 m by 40 m was stripped of topsoil (but not colluvial subsoil) at the apex of the excavation area described above. No archaeological remains were observed during the preparation of the compound.

Associated Fieldwork Events

1.1.6 An environmental assessment (URL 1994) and archaeological evaluation (URS 1999b) have preceded the archaeological excavation at Sandway Road. In addition, a number of associated fieldwork events have been incorporated into this assessment report (**Table 1**). The locations and extents of the associated fieldwork events is shown on **Figure 1**, whilst brief summaries of the results of these additional events are provided below.

Table 1: Fieldwork Event Details

Event Type	Event Name	URS site code	Contractor
Environmental Assessment	-	-	OAU
Geophysical Survey	West of Sandway	ARC SNDW95	GSB
Geophysical Survey	Sandway	ARC SND95	GSB
Evaluation	Sandway Road	ARC SWR98	WA
Excavation	Sandway Road	ARC SWR99	WA
Watching Brief	Sandway Road TWB	ARC 420/99	OAU

1.2 Topography, Geology and Hydrography

- 1.2.1 In a broad context, the site occupied the west facing side of a promontory below the south-facing escarpment for the North Downs, located *c.* 1 km to the north. However, within the site limits the topography could be divided into two distinct zones. To the south-east, the site occupied a very gently-sloping west-north-west facing terrace at an approximate height of 102 m above Ordnance Datum (aOD). Below this, to the north-west, the site was situated on a north-west facing relatively steep sloping surface, descending from *c.* 102 m aOD to *c.* 98 m aOD.
- 1.2.2 The underlying solid geology that forms the promontory noted above comprises Cretaceous Lower Greensand Folkestone Sand Beds, with more recent drift alluvium mapped along the course of the River Len to the south-west (Ordnance Survey 1976). The characteristic soil of the area is argillic brown earth (Soil Survey of England and Wales, Ordnance Survey 1975).
- 1.2.3 A small, unnamed, approximately southerly-flowing tributary of the River Len was located at the base of the slope to the north-west of the site.

1.3 Archaeological and Historical Background

Environmental Assessment

- 1.3.1 The environmental assessment noted that Lord Monckton, a local landowner, had found two dense scatters of flints predominantly comprising Mesolithic material (URL 1994, A71 and fig. OELK/900-1804/3035: ref. nos. 1371 and 1372). These were located approximately 300 m and 100 m (respectively) to the west of the site, and were recovered along the line of the M20 prior to its construction (**Figure 1**).

West of Sandway Geophysical Survey (ARC SNDW95)

- 1.3.2 The geophysical survey did not reveal any indication of archaeologically significant responses (URL 1996, 15 and fig. 51; **Figure 1**).

Sandway Geophysical Survey (ARC SND95)

- 1.3.3 The geophysical survey identified anomalies of possible archaeological interest towards the west end of the site, although the possibility that these may be related to more obvious ferrous responses was raised (URL 1996, 17 and fig. 54; **Figure 1**).

Sandway Road Evaluation (ARC SWR98)

- 1.3.4 The evaluation, consisting of a series of nine trial trenches, revealed a stratigraphic sequence comprising ploughsoil and colluvium (where present) overlying natural sands. Four archaeological features were recorded comprising a probable tree-throw dated to the Middle Neolithic, a ditch and pit of probable Middle/Late Bronze Age date and an undated possible hearth. The features were concentrated in two adjacent trenches to the north-east of Sandway Road (3577TT, 3632TT; URS 1999b; **Figure 2**).

Sandway Road TWB Watching Brief (ARC 420/99)

- 1.3.5 The results of the targeted watching brief (carried out in two discrete zones designated Areas A and B) are discussed in detail below. In summary, Area A contained the north-east terminal of a south-west to north-east aligned post-medieval ditch, as well as one medieval pit. Additional undated features included two pits (one of which may have been a burnt-out tree stump), one post-hole and one tree-throw. Area B contained five ditches that appear to collectively represent at least three phases of Late Bronze Age/ Early Iron Age activity, as

well as three burnt-out tree stumps, one of which produced Late Iron Age/ Early Romano-British pottery, and 12 tree-throws (URS 2000; **Figure 2**).

2 ORIGINAL PRIORITIES, AIMS AND METHODOLOGY

2.1 Landscape Zone Priorities

2.1.1 The primary landscape zone priorities within this part of Kent were to obtain information concerning:

- *The palaeo-environment for all periods represented on site including the effects of man as hunter-forager, tree-clearer or farmer.*
- *The basis of the rural economy and trade noting the changes in the landscape use over time along with its division and possible settlement.*
- *The ritual use of the landscape including the setting of the Medway Megaliths and burial practices.*

2.2 Fieldwork Event Aims

2.2.1 The primary fieldwork event aims, as defined in Contract no. URS/400/ARC/0001 (URS 1999a, 36) were as follows:

- *Determine the extent and nature of Bronze Age and earlier prehistoric occupation and use of the site.*
- *Recover individual artefacts, artefact assemblages and other indicators, such as faunal and charred plant remains, from securely dated sequences to establish the economic basis of agricultural communities.*
- *Determine the local environment of the site through recovery of palaeo-environmental data from cut features and the colluvial sequence.*
- *Recover suitable samples for radiocarbon dating purposes.*

2.3 Fieldwork Methodology and Summary of Excavation Results

Methodology - General

2.3.1 The limits and locations of the evaluation trenches and excavation areas were established by Wessex Archaeology, based on digital mapping provided by RLE, utilising URL project grid.

2.3.2 All bulk earth removal was undertaken using 360° tracked excavators equipped with toothless buckets and was under constant archaeological supervision. All bulk soil removal continued until archaeology features and/or deposits, *in situ* geological deposits or the formation level for anticipated impact was reached, whichever was encountered first.

2.3.3 Any archaeological features/deposits encountered were hand-cleaned and recorded to current best archaeological practice. Appropriate *pro-forma* description sheets were used for the individual features with plans and sections generally drawn at scales of 1:20 and 1:10 respectively. All archaeological remains were digitally surveyed utilising URL project grid, and located on appropriate large-scale plans.

- 2.3.4 A photographic record both in monochrome prints and colour transparencies was produced to illustrate both the archaeological features and the general progress of the excavation.

Methodology – Mesolithic features/deposits

- 2.3.5 In view of the unexpected nature of the discoveries at Sandway Road (i.e. *in situ* Mesolithic flint scatters and contemporaneous features), a detailed Method Statement (URS 1999c) was produced by Wessex Archaeology for the excavation and recording of these remains. This document was duly approved by RLE, in consultation with Kent County Council and English Heritage.

- 2.3.6 In summary, the detailed Method Statement proposed the 100% excavation of each flint scatter in a checkerboard-fashion of discrete 0.5 x 0.5 m (i.e. 0.25 m²) square collection units, with each unit excavated in 0.1 m spits. All excavated spoil was passed through 4 mm mesh sieves, and all finds thus retrieved were bagged and marked with a unique coding system to identify the unit and spit that they were retrieved from. The checkerboard grid was tied-in to URL grid. The large pit was similarly excavated, although in this instance the unit size was reduced to 0.25 x 0.25 m squares (i.e. 0.0625 m²), with each spit measuring 0.05 m in thickness.

- 2.3.7 All finds from four adjacent collection units per spread (i.e. 1 m²), as well as a group of four from the large subcircular feature (i.e. 0.25 m²), all selected at random, were individually bagged and 3-d recorded using the onsite Total Station. These detailed collection units were primarily aimed at examining whether there were significant micro-spatial or micro-temporal variations within the main deposition sequence. Furthermore, a separate group of four collection units per spread/feature, again selected at random, was 100% sampled and sieved in laboratory conditions to examine the possibility that micro-debitage (i.e. pieces smaller than the 4 mm mesh sieves utilised for artefact sieving on site) was present.

Summary of Results

- 2.3.8 The stratigraphic sequence generally encountered comprised topsoil, overlaying colluvial deposits, overlying *in situ* Folkestone Sand. The colluvium was up to 0.5 m thick, containing occasional pieces of worked flint and prehistoric pottery, and was thickest in two zones, at the base of the slope on which the site was located and against the south-east (upslope) side of the field boundary that defined the brow of the terrace noted above, and which formerly divided the site into two areas.

- 2.3.9 During the course of the evaluation and excavation 70 features were identified and excavated. These comprised eight ditches, four pits, three possible hearth pits, two artefact scatters, 43 probable tree-throws, nine amorphous irregular features filled with burnt material (possibly representing burnt-out tree stumps) and one irregular feature of indeterminate function (though probably natural). The watching brief revealed a further six ditches (or gullies), three possible pits, one modern? post-hole, 11 tree-throws and three burnt-out tree stumps.

- 2.3.10 The distribution of all remains is indicated on **Figure 2**. For clarity, context number references in text and on figures related to archaeological features recorded during the watching brief will be prefixed hereafter with “**WB**”.

- 2.3.11 The provisionally dated features of medieval date or earlier identified from all fieldwork events can be summarised according to the Research Objective major periods as follows;

- *Hunter-foragers (400,000 – 4500 BC)*

Mesolithic: A 3 m diameter subcircular pit (72), two smaller subcircular shallower pits (156 and 167), two large irregular flint scatters (137 and 144) and a feature of indeterminate form (123). A single pit-like feature (164) was sealed by spread 144. All Mesolithic features were grouped together on the flatter terrace noted above.
- *Early Agriculturalists (4500 – 2000 BC)*

Earlier Neolithic: Ditch/pit 127 and tree-throw 28.

Middle Neolithic: Large pit 133, burnt-out tree stump 49 and tree-throws 35 (previously recorded as 357705 in trench 3577TT) and 160.
- *Farming Communities (2000 – 100 BC)*

Middle Bronze Age: Parallel ditches 54 (previously recorded as 357703 in trench 3577TT) and 104, aligned north-west to south-east. The ditches appear to form a coherent part of a field system.

Late Bronze Age/ Early Iron Age: Pit 363208 (trench 3632TT). All other features attributable to this period were recorded during the targeted watching brief in Area B, comprising north-west to south-east aligned ditch WB81, cut by north-south aligned ditch WB49 (equivalent to ditch WB82) with ditch WB82 cut by trackway? ditches WB60 and WB61. Other dated features included burnt-out tree stump WB41 and tree-throw WB72.
- *Towns and their rural landscapes (100 BC – AD 1700)*

Late Iron Age/ Early Romano-British: A single burnt-out tree stump (WB40) recorded within targeted watching brief Area B.

Medieval: Parallel ditches 11 and 43, co-aligned with the Middle Bronze Age ditches. Also pit WB24 recorded in targeted watching brief Area A.

2.4 Assessment Methodology

- 2.4.1 This assessment report was commissioned by URS to the specification for assessment reports produced by RLE (*CTRL Section 1 Archaeology: Post Excavation Assessment Instruction no. 000-RMA-RLEVC-00030-AB*), as discussed with English Heritage and Kent County Council. This specification follows national guidelines prepared by English Heritage, including *Management of Archaeological Projects II* (English Heritage 1991), and provides additional information regarding the format and level of detail required for CTRL assessment reports. The production of this assessment report was project managed by Andrew Crockett, Michael Reynier examined the Mesolithic flint assemblage with all other specialist advice provided by Wessex Archaeology in-house expertise.

3 FACTUAL DATA AND QUANTIFICATION

3.1 The Stratigraphic Record

Stratigraphy

- 3.1.1 The archaeological features recorded during the excavation survived as cuts into the surface of the natural sands. There were no features identified either cutting into or within the overlying colluvium within the site. In areas where colluvium was absent, all features were sealed directly by ploughsoil.
- 3.1.2 In those areas where colluvium was absent it is very likely that some truncation through ploughing has occurred, although it is difficult to assess to precisely what degree. For instance, the north-western ‘terminal’ of the north-west section of Mid Bronze Age ditch **54**, exhibits a narrow tapered shape in plan, and has a shallow poorly defined profile. This is likely to represent the truncated remains of a ditch that originally continued further to the north-west. Similar arguments can be proposed for the adjacent medieval ditches (**11** and **43**).
- 3.1.3 Although features sealed by overlying colluvium may have been protected from relatively modern ploughing, it is likely that the colluvium itself is the result of agricultural impact and even these ‘protected’ features may therefore have been truncated in antiquity. Although few stratigraphic or artefactual indicators were recorded within the colluvium to confidently date the onset of such truncation, given the dated remains recorded at Sandway Road it is likely to have begun during the Bronze Age at the latest.
- 3.1.4 Few inter-relationships were recorded during the excavation, and although this constrains the opportunity for detailed stratigraphic analysis, it does imply that there is less likelihood for intrusive and/or residual material within the features observed. There were, however, two features (ditch/pit **127** and the junction of ditches **102** and **104**) where significant post-depositional disturbance was noted. Although the disturbance in ditch/pit **127** may have represented a series of recutting events, the disturbance at the intersection of ditches **102** and **104** is almost certainly the result of animal activity.
- 3.1.5 A significant number of recorded discrete features are interpreted on morphological grounds as tree-throws or burnt-out tree stumps, although many produced some artefactual evidence, usually in the form of undiagnostic worked flint. Diagnostic material such as pottery was generally (but not exclusively) restricted to the more obvious archaeological features such as ditches and pits. Five of the tree-throws and one burnt-out tree stump stratigraphically post-dated the spreads of Mesolithic worked flint, yielding as a result quantities of such flint during their excavation.
- 3.1.6 Feature fills were clearly derived from the parent geology on which the site was located, and generally comprising light brownish grey slightly silty sand containing occasional pieces of sub-angular flint gravel. Notable exceptions comprised the fill of Mesolithic feature **72**, and three other features in its vicinity (**156**, **123** and **167**). Whilst the matrix for these fills remained the same as that of all other features on site, the colour was noticeably darker, with a brown hue.
- 3.1.7 This colour differentiation was clearly not the result of a localised change in soil characteristics, as other features in the immediate area, such as features **104** and **54**, did not demonstrate this change in hue. It is perhaps more likely that the colour change either

indicates a different anthropogenic component/impact on the soils peculiar to the period to which they belong, or possibly that it represents the reworked pre-Holocene upper soil horizon. Either interpretation raises the inevitable conclusion that features containing this distinctive fill are all broadly contemporaneous (i.e. Mesolithic).

Research Objective: Hunter-foragers (400,000 – 4500 BC)

(PRE?) MESOLITHIC

Contexts: Tree-throw 164

- 3.1.8 On stratigraphic grounds alone, one of the potentially earliest features on site was an amorphous tree-throw (**164**) sealed by Mesolithic flint scatter **144**.

MESOLITHIC (8500 – 4000 BC)

Contexts: Scatters 137 and 144, Pits 72, 156 and 167, Feature 123

- 3.1.9 Mesolithic features were concentrated towards the south-east end of the excavation area, on the gently sloping terrace noted above. The scatters (**137** and **144**) were located at the base of the colluvial sequence and were generally *c.* 0.08 m thick, although localised patches up to 0.2 m existed where the spreads overlay natural undulations in the surface of the *in situ* Folkestone Sand. The upper 0.1 m mantle of the *in situ* Folkestone Sand sealed by these spreads was also examined, revealing a small quantity of worked flint that had presumably migrated down through the soil profile after deposition.
- 3.1.10 Discrete features attributable to this period include pit **72**, a shallow 3 m diameter feature, which produced numerous pieces of distinctive late Mesolithic blade industry worked flint, and smaller pit **167** (*c.* 0.8 m diameter) which produced similar material. Feature **123** and pit **156**, although producing few finds, are included in this phase on the basis of their distinctive brown-coloured fills (as discussed above), identical to the fills of pits **72** and **167**. Feature **72** is interpreted at this stage as a pit, although the quantity of worked flint recovered from its excavation may suggest that it was a working hollow or such like.

Research Objective: Early agriculturalists (4500 – 2000 BC)

EARLIER NEOLITHIC (4000 – 3400 BC)

Contexts: Ditch/pit 127, Tree-throw 28

- 3.1.11 Two features produced pottery identifiable to this period, comprising east to west aligned short ditch (or possibly elongated pit) **127**, and tree-throw **28**. On morphological grounds it is possible that ditch/pit **127** could also be a tree-throw, although this interpretation has been rejected largely due to its size (which is at least twice that of the largest confirmed tree-throws on the site). There was no obvious focus for Earlier Neolithic activity at the site, although both features are located either within or adjacent to the potential ‘trackway’ corridor defined by later ditches attributable to the Bronze Age and medieval periods.

MIDDLE NEOLITHIC (3400 – 2500 BC)

Contexts: Pit 133, Tree-throws 35 and 160, Burnt-out tree stump 49

- 3.1.12 Pit **133**, a very large feature located in the southern corner of the site is attributed to this period, as well as tree-throws **35** and **160** (the former originally revealed in evaluation trench 3577TT) situated towards the north-west and south-east ends respectively of Bronze Age ditch **54**. Burnt-out tree stump **49**, located to the north-east of the Mesolithic remains, is also included in this period. As with the preceding period, there was no obvious focus for Middle Neolithic activity at the site, although the size of pit **133** is noteworthy.

Research Objective: Farming Communities (2000 – 100 BC)

MIDDLE BRONZE AGE (1500 – 1100 BC)

Provisional groups: Ditch 54 [including ditches 59, 111] and Ditch 104 [including ditches 125, 246, and 102]

- 3.1.13 Features attributable to this period appear to form either a trackway or field boundary/enclosure aligned south-east to north-west and passing centrally through the excavation area. The larger, more coherent element (ditch **54**) produced pottery ranging in date from Earlier Neolithic through to Middle Bronze Age, as well as many pieces of probable Mesolithic worked flint. In the absence of any contradictory evidence, the most recent Middle Bronze Age material has therefore been used to date this feature, the earlier sherds presumably representing residual material.
- 3.1.14 Parallel to the larger alignment of ditches was a shorter narrower gully or ditch (ditch **104**) located approximately 2-3 m to the north-east. It is unclear whether this feature represents the north-east side of a trackway following the edge of the larger ditch(es) noted above, or perhaps a small ditched enclosure, perhaps for stock control/penning, built against the side of the larger ditch.

LATE BRONZE AGE/ EARLY IRON AGE (1100 – 400 BC)

*Provisional group: [Ditches **WB49** and **WB82**]*

*Contexts: Pit 363208, Ditches **WB81**, **WB60** and **WB61***

- 3.1.15 Within the excavation/ evaluation limits, the only feature of this date was a small pit recorded during the evaluation (pit **363208**, trench 3632TT), comprising a subcircular feature *c.* 1.1 m in diameter and 0.2 m deep. This feature could not be relocated during the subsequent excavation.
- 3.1.16 All other features attributable to this period were recorded within targeted watching brief Area B, and collectively appear to represent at least three phases of activity during this period. The stratigraphically earliest feature comprised the south-east terminal section of north-west to south-east aligned ditch **WB81**, cut by the northern section (**WB49**) of a slightly meandering sinuous north to south aligned interrupted ditch, comprising ditch **WB82** to the south and **WB49** to the north.
- 3.1.17 Although ditches **WB49** and **WB82** were provisionally undated, the other features they had both post- and pre-dated had produced Late Bronze Age/ Early Iron Age pottery, and as such **WB49** and **WB82** are included in this phase on stratigraphic grounds.
- 3.1.18 The most recent activity associated with this period comprised a pair of south-south-west to north-north-east aligned ditches (ditches **WB60** and **WB61**), approximately parallel and *c.* 3.5 m apart, the western element of which (ditch **WB60**) had cut across the line of ditch **WB82**. Both ditches terminated at their northern ends within the watching brief area, with the terminal of ditch **WB60** apparently respecting that of ditch **WB81**, although given the relative chronology for these features, this spatial relationship is assumed to be coincidental.

Research Objective: Towns and their rural landscapes (100 BC – AD 1700)

LATE IRON AGE/ EARLY ROMANO-BRITISH (100 BC – 150 AD)

*Contexts: Burnt-out tree stump **WB40***

- 3.1.19 A small semi-elliptical slightly irregular feature measuring *c.* 1.2 m by 0.7 m in diameter, and located within targeted watching brief Area B, adjacent to the Late Bronze Age/ Early Iron Age ditches (see above).

MEDIEVAL (1066 – 1500 AD)

Contexts: Ditches 11 and 43, pit WB24

- 3.1.20 Features attributed to this phase comprised a pair of south-east to north-west aligned parallel ditches (**11** and **43**) located within the north-western sloping portion of the site, and co-aligned with the Bronze Age ditches noted above. The larger feature (ditch **11**) was a wide shallow feature, producing a few sherds of medieval pottery. Ditch **43**, located *c.* 4-5 m to the south-west of ditch **11**, is undated, but is included in this phase on the basis of both its morphological similarity and spatial relationship to ditch **11**. Pit **WB24** was recorded in targeted watching brief Area A, adjacent to post-medieval ditch **WB26**.

Undated

- 3.1.21 The tree-throws and other features of probable natural origin represented the greatest proportion of features on site, a number of which produced datable finds. The tree-throws are generally a characteristic ‘sausage’ shape in plan, indicating the direction in which the tree had fallen, causing the topsoil to be deposited within the cavity thus formed as the root system rotates out of the ground (i.e. Moore and Jennings 1992, fig. 6).
- 3.1.22 Several of the tree-throws (e.g. **139**, **151**, **158** and **171**) had formed within the surface of the Mesolithic flint scatters and as a result contained some of this Mesolithic material. Apart from probably post-dating the deposition of the Mesolithic flint, they are of uncertain date (although most likely prehistoric). The cavity formed by tree-throw **238** may have been re-used as a hearth, producing a single sherd of undiagnostic prehistoric pottery.
- 3.1.23 The enigmatic shallow carbonised features are interpreted as burnt-out tree-stumps. Similar sized and filled features, although often more regular in profile where described, appear to be a relatively common feature on the Folkestone Beds in the region (e.g. Hurst Wood: URL 1997, URS 1999e). If the interpretation of these features as burnt-out tree-stumps is correct, they can be seen as evidence of woodland clearance, as opposed to tree-throws, the latter presumably representing trees that have matured and fallen without undue human influence.
- 3.1.24 A group of intercutting pits (comprising **14**, **16**, **18** and **19**) situated towards the north-eastern side of the excavation area contained no dating material and their purpose is unknown.

3.2 The Artefactual Record

Introduction

- 3.2.1 The finds assemblage from Sandway Road is dominated by a significant collection of worked flint; other material types are represented in much smaller quantities. Of primary importance here is the early prehistoric assemblage recovered from two artefact scatters and from various cut features, comprising a substantial collection of Mesolithic/Neolithic worked flint, and a smaller but nevertheless highly significant group of Early and Middle Neolithic pottery. There is also a smaller amount of later material, ranging in date from Middle Bronze Age to post-medieval. The finds are briefly discussed by material type below; the supporting data (and detailed specialist reports for worked flint and pottery) are presented under the appropriate category in **Section 7**.

Pottery

- 3.2.2 The small pottery assemblage (235 sherds) includes material of Early Neolithic (maximum 45 sherds), Middle Neolithic Peterborough ware (maximum 42 sherds), undiagnostic Neolithic/Bronze Age (24 sherds), Early/Middle Bronze Age (6 sherds); Middle Bronze Age

Deverel-Rimbury style (76 sherds), undiagnostic Middle/Late Bronze Age (15 sherds), Iron Age (3 sherds), medieval (7 sherds) and post-medieval date (17 sherds). Overall condition is fair to poor, with most sherds small and heavily abraded. A significant proportion of the assemblage comprises sherds in non-distinctive flint-tempered fabrics that cannot be attributed with certainty to ceramic tradition.

3.2.3 Apart from a very few sherds from topsoil or unstratified contexts, all the pottery is derived from stratified contexts, including cut features, tree-throws and colluvial deposits.

3.2.4 The most interesting elements within this assemblage are the small groups of Early Neolithic, Middle Neolithic and Early/Middle Bronze Age date. All of these, but particularly the Neolithic groups, represent types known rarely in Kent, and their occurrence here in stratified contexts is particularly significant.

Ceramic Building Material

3.2.5 Of the 38 fragments of ceramic building material recovered, 19 are roof tile fragments in soft, fine heavily abraded fabrics; all are from handmade tiles and although not particularly diagnostic, could, on the grounds of fabric and manufacture, be dated to the medieval period. There are three small fragments of brick, probably post-medieval, and the remaining 16 fragments are undiagnostic, and could be either of medieval or post-medieval date. Most of the ceramic building material was recovered from unstratified, topsoil or subsoil contexts, although eight fragments came from the colluvium, and 12 very small fragments were intrusive within Mesolithic artefact scatters **137** and **144**.

Fired Clay

3.2.6 The small quantity of fired clay recovered comprises small, abraded fragments which are of uncertain date and origin, occurring predominantly, but not exclusively, in contexts containing early prehistoric pottery.

Worked Flint

3.2.7 The entire assemblage consists of 7,548 pieces of which 1,088 were examined for this assessment (**Figure 3**). The flints examined in the assessment came from four collection areas:

- *1 m² of the artefact scatter 137 (Figure 4)*
- *1 m² of artefact scatter 144 (Figure 5)*
- *1 m² of Mesolithic pit 167 (Figure 6)*
- *0.25 m² of Mesolithic pit 72 (Figure 7)*

3.2.8 Almost the entire assessment sample was made from flint, the exception being three pieces of chert. Most of the flint was a light semi-translucent grey with a smaller amount being of high quality translucent dark grey to black material. The local flint was generally stained light brown to orange in colour and does not seem to have been much used. A relatively small proportion of the pieces examined exhibited recent damage and it appears that the assemblage is very well preserved.

3.2.9 The 1,088 assessed pieces consisted of 48 tools, 90 artefacts related to tool production, 240 blades and flakes and 710 fragments. Microliths formed the largest class of tool and of

these, small convex-backed forms and scalene micro-triangles were most common. These forms were current in the Later Mesolithic period (c. 6750-3500 BC).

3.2.10 The four areas were consistent in composition but there were two noticeable differences:

- *the absence of tools in artefact scatter 137*
- *the increased frequency of complete blades and flakes in artefact scatter 144*

3.2.11 The vertical distribution of the assemblage (**Figure 8** and **9**) through the soil profile showed no shifts in the structure or sterile horizons. These can be indicators of discrete periods of re-use, suggesting that the assemblage was deposited over a relatively short time.

3.2.12 Very few substantial Mesolithic sites exist in Kent or the surrounding counties and no precise parallels exist. The Sandway Road site is therefore of great importance in the archaeological record of the Mesolithic period.

Burnt Flint

3.2.13 A total of 7,441 pieces (18,826g) of burnt flint was recovered from all features/deposits excluding the Mesolithic remains. Although burnt flint is intrinsically undiagnostic, it is generally considered to be representative of prehistoric activity. Preliminary distribution analysis of the burnt flint recovered from Mesolithic features at Sandway Road (**Figure 10**) indicates concentrations within the southernmost spread (**137**) in particular that may be considered indicative of occupation and/or discard zones. It is of note that relatively few pieces of burnt flint were recovered from the central pit **72**, compared to worked flint.

3.3 The Environmental Record

Introduction

3.3.1 A comprehensive suite of bulk samples was taken from sealed contexts to recover charred plant remains and charcoal, the largest number being taken from Mesolithic pit **72**. In addition, a series of five undisturbed soil samples (kubienas) was taken from *in situ* Mesolithic deposits for consideration of soil micromorphology and pollen. These were accompanied by five small bulk samples to analyse soil chemistry and particle size in order to characterise and help provide a soil history. A soil monolith was taken through the colluvium that sealed features on the upper terrace to assist in the understanding of the soil history and truncations.

Macroscopic plant remains and charcoal

3.3.2 The samples processed produced varying quantities of uncharred weed seeds. Although other factors must be considered, it is generally considered that the greater the quantity of uncharred weed seeds, the greater the likelihood that significant stratigraphic movement has occurred.

3.3.3 Low numbers of charred grain fragments were found in eleven of the samples from the Mesolithic pit **72** and a further seventeen produced a few charred weed seeds and hazel nut fragments.

3.3.4 Small quantities of both charred grain and weed seeds, including hazelnut fragments, were recovered from Middle Bronze Age ditch **54** but only a few charred weed seeds were found in Middle Neolithic pit **133**.

- 3.3.5 Large amounts of charcoal were recovered from one of the fills in Middle Neolithic pit **133** and from burnt-out tree stump **49**. Smaller amounts were found in Middle Bronze Age ditch **54** and Mesolithic pit **72**.

Pollen

- 3.3.6 Four sub-samples for pollen assessment were taken from soil monolith 18 from the fill of Mesolithic pit **72**. They were taken at heights of 0, 80, 160 and 240 mm in relation to the upper surface of the pit.
- 3.3.7 Eight sub-samples for pollen assessment were taken from kubiena sample 11, extracted from the southern artefact spread **137**. These were taken at 20 mm intervals from the upper surface of the spread to a depth of 0.16 m, prior to the submission of the kubiena sample for manufacture into a soil morphology slide. Samples at depths of 20, 60, 100 and 140 mm were assessed.
- 3.3.8 None of the eight sub-samples yielded sufficient pollen for satisfactory analysis, with the only pollen present being occasional *Taraxacum* (dandelion) type, which is the typical end product of pollen preservation when all else has been destroyed. The agent of such destruction is likely to be oxidation brought about by constant wetting and drying (Scaife pers. comm.). As such, there are no quantifiable results from pollen assessment to present in Section 7.

Soil Micromorphology

- 3.3.9 The Mesolithic activity included two areas of scattered artefacts (**137** and **144**) contained within relict spreads of humic soil overlying the Folkestone Sands. The humic soil seemed to be a severely truncated profile (up to 0.08 m thick), probably just the B horizon, into which flints had been worked by biotic (worms and roots) activity, overlying natural Folkestone sand (recorded as layer **140**).

3.4 Dating

- 3.4.1 Three samples were submitted to the Rafter Laboratory, New Zealand, for AMS dating. The samples were all obtained from the Mesolithic pit **72** (**Figure 11**), their details are tabulated below (**Table 2**). The radiocarbon dates from Sandway Road fall outside the normal datasets, and are therefore calibrated with the 20 year atmospheric calibration curve, using the OXCAL 2.10 and data from Stuiver *et al* (1993.). They are expressed at the 95% confidence level with the end points rounded outwards to 10 years following the form recommended by Mook (1986).

Table 2: AMS dating sample details from Pit 72

Sample ID	Context	Sample	Depth	Material	Calibrated date
R26175/1	375051	49	0.10 – 0.15 m	Hazelnut	8590-8090 BC
R26175/2	375051	49	0.10 – 0.15 m	Cereal grain (<i>Triticum/ Hordeum</i> sp.)	5930-5660 BC
R26175/3	345031	44	0 – 0.05 m	Cereal grain (possible <i>Triticum</i> sp.)	1950-1690 BC

3.4.2 It is of note that the samples belong to three chronologically very distinct periods spanning *c.* 7,000 years, suggesting that residual and/or intrusive material is present in pit **72**. However, the artefactual evidence overwhelmingly indicates that the feature originates in the Later Mesolithic period (i.e. *c.* 6750-3500 BC), and it is therefore assumed provisionally that the radiocarbon date obtained from charred cereal grain R26175/2 indicates the approximate age of the feature. Clearly, if this assumption were valid, the worked flint evidence would assume tremendous importance within this period of prehistory.

3.4.3 This would therefore also assume that the hazelnut fragment is residual, possibly indicating earlier low-level transient hunter/gatherer activity in the area that is not preserved in any other way in the archaeological record. It is as yet unclear whether the remaining charred hazelnut fragments are also residual finds of a similar date, and whilst the possibility that the hazelnuts are the result of bioturbation cannot be ruled out, their charring would suggest not. The later cereal grain (which is attributable to the Early Bronze Age) recovered from the upper surface of the pit is likely to be intrusive, with Early/Middle Bronze Age pottery also recovered from nearby features.

3.5 Archive Storage and Curation

3.5.1 Following completion of the Interim Excavation Report (URS 1999d), the archive has been updated to include records from all fieldwork events carried out by Wessex Archaeology as itemised above (**Table 1**).

3.5.2 The paper and photographic archive along with the finds are presently held at the offices of Wessex Archaeology under the URS site codes ARC SWR98 (evaluation) and ARC SWR99 (excavation), as well as part of the archive for ARC 420/99 (targeted watching brief conducted by Oxford Archaeological Unit). The final destination of the CTRL Section 1 Archaeological Archive is not known. It is hoped that it will be deposited locally in Kent, and for the purpose of assessment it shall be assumed that a Kent museum destination will be achieved.

3.5.3 Without a certain destination, decisions on long term storage, curation and discard cannot be finalised. However, it is recommended that the entire artefactual and ecofactual assemblage, with the possible exception of post-medieval and later material, should be retained for long term storage.

3.5.4 Although a few small pieces of metalwork were recovered it is not anticipated that long term storage of these items will be an issue that needs to be specifically addressed. Moreover, as suggested above, it would be considered appropriate to discard any post-medieval metal items with the remainder of the artefact assemblage of that date or later.

3.5.5 The archives for fieldwork events carried out by Wessex Archaeology currently comprise the following components (Tables 3a-b).

Table 3a: Sandway Road Evaluation (ARC SWR98) Archive Components

Item	Number of Items	Quantity	Condition (No. of items) (W=washed; UW=unwashed; M=marked; P=processed; UP=unprocessed; D=digitised; I=indexed)
Contexts records	5	-	P, I
A1 plans and sections	-	-	P, I
A3 plans and sections	1	-	-
A4 plans and sections	18	-	P, I
Small finds	-	-	-
Films (monochrome) S=slide; PR=print	4	-	P, I
Films (colour) S=slide; PR=print	4S; 2PR	-	P, I (PRs submitted as deliverables)
Pottery	100	725g	W, M, P, I
Fired clay	-	-	-
CBM	12	75g	W, M, P, I
Worked Flint	65	-	W, M, P, I
Burnt flint	6	37g	W, M, P, I
Stone	2	3350	W, M, P, I
Shell	-	-	-
Metalwork	-	-	-
Glass	1	2g	W, M, P, I
Slag	-	-	-
Human Bone	-	-	-
Animal Bone	-	-	-
Soil Samples	3	c. 45 litres	P, I
Soil Samples (Monolith/kubiena tin)	-	-	-

Table 3b: Sandway Road Excavation (ARC SWR99) Archive Components

Item	Number of Items	Quantity	Condition (No. of items) (W=washed; UW=unwashed; M=marked; P=processed; UP=unprocessed; D=digitised; I=indexed)
Contexts records	179	-	P, I
A1 plans and sections	-	-	P, I
A3 plans and sections	13	-	-
A4 plans and sections	63	-	P, I
Small finds	1,468	-	W, M, P, I
Films (monochrome) S=slide; PR=print	12	-	P, I
Films (colour) S=slide; PR=print	12S; 2PR	-	P, I (PRs submitted as deliverables)
Pottery	135	661g	W, M, P, I
Fired clay	10	75g	W, M, P, I
CBM	26	258g	W, M, P, I
Worked Flint	7,548	-	W, M, P, I
Burnt flint	7,435	18,789g	W, M, P, I (not including SFs)
Stone	-	-	-
Shell	-	-	-
Metalwork	6	-	M, P, I
Glass	2	7g	W, M, P, I
Slag	3	82g	UW, P, I
Human Bone	-	-	-
Animal Bone	-	-	-
Soil Samples	66	c. 645 litres	46 P, I; 20 UP
Soil Samples (Monolith/kubiena tin)	6	-	6 UP

3.5.6 The number and capacity of all finds boxes is as follows;

Table 4: Quantification of Finds by volume

Description	Capacity	No.	Total Volume
Large Cardboard	0.029 m ³	15	0.435 m ³
Small Cardboard	0.009 m ³	2	0.018 m ³
Small plastic ('Stewart')	0.001 m ³	1	0.001 m ³
	TOTAL	18	0.454 m³

4 STATEMENT OF POTENTIAL

4.1 Introduction

4.1.1 The results of the fieldwork events as itemised in **Table 1** have been assessed against the *CTRL Archaeological Research Strategy* (URS 1999a, 63-7), the *Landscape Zone Priorities* (*ibid.* 34-6) and the specific *Primary Fieldwork Event Aims* (*ibid.* 36), with the degree of potential for each data category estimated (**Table 5**).

4.1.2 In light of this assessment the data categories that are considered of above low potential for further analysis have been identified and discussed below. Within data categories, any research objectives, landscape zone priorities and fieldwork event aims not addressed have been assessed and considered at this stage inappropriate/ inapplicable to the results as presented above.

4.2 Stratigraphic Potential

*Research Objective: Hunter-foragers (400,000 – 4500 BC), and
Fieldwork Event Aim: Bronze Age and earlier use of the site*

4.2.1 The Mesolithic artefact scatters and large central pit are important features that offer significant potential for further analysis. Whilst the artefact scatters are generally unstratified (i.e. they appear to represent a relatively short-lived single episode of deposition), the spatial distribution of worked flint categories, including burnt flint, may indicate specific activity zones within the spreads. The central pit, which may possibly represent a working hollow or such like, does appear to contain stratified material, although detailed analysis may confirm whether this represents migration of material down through the profile rather than sequential deposition. As with the adjacent spreads, the central pit will also contribute to detailed spatial analysis, both within the wider landscape of Mesolithic remains, and at a stand-alone micro-level.

Landscape Zone Priority: Reconstruction of the changing palaeo-environment

4.2.2 Elements of the stratigraphic record do raise issues that may be applied to a broader regional context, not least of which are the enigmatic burnt features that have been interpreted here as tree stumps burnt *in situ*. Only a few pieces of pottery were recovered from the Sandway Road investigations of these features, and it may therefore be appropriate to consider submitting a suite of charcoal samples for both species identification and radiocarbon dating. It would be hoped that such analysis would confirm or deny that individual features only contain charcoal from one species, and to which period (or periods) these potential tree-clearance features relate to.

4.3 Artefactual Potential

*Research Objective: Hunter-foragers (400,000 – 4500 BC), and
Fieldwork Event Aim: Bronze Age and earlier use of the site*

4.3.1 Relatively large assemblages of formally excavated Mesolithic worked flint, such as excavated at Sandway Road, in Kent and the surrounding counties are very rare; in fact an exact parallel does not exist. The Sandway Road flint assemblage is in good condition and its further study holds great potential for better understanding the flint working of the period. Detailed analysis may identify spatial, and less probably temporal, variations that are not perhaps apparent from the subset already examined. The presence of a few Earlier

Neolithic diagnostic tools within this assemblage may even indicate a degree of continuity across the transition between the two periods.

*Research Objective: Early Agriculturalists (4500 – 2000 BC), and
Fieldwork Event Aim: Bronze Age and earlier use of the site*

- 4.3.2 The presence of Early and Middle Neolithic pottery is highly significant; pottery attributable to these periods is not common in Kent, and any occurrence, even if not *in situ*, is worthy of note and warrants full publication.

*Research Objective: Farming Communities (2000 – 100 BC), and
Fieldwork Event Aim: Bronze Age and earlier use of the site*

- 4.3.3 The small groups of Bronze Age pottery and flint are also interesting. While Deverel-Rimbury style coarseware (Bucket/Barrel Urns) is relatively well-documented from the county, the fineware Globular Urns are extremely rare. The Early/Middle and Middle Bronze Age pottery warrants further fabric and form analysis and publication.

*Landscape Zone Priority: Establish the basis of the rural economy for all periods, and
Fieldwork Event Aim: Economic Basis of Agricultural Communities*

- 4.3.4 The Mesolithic remains provide a clear indication of the economic basis for the contemporaneous community. The remainder of the artefact assemblage, however, offers little further potential to contribute to this field, apart from providing a relatively secure chronological framework for the site as a whole. However, the prehistoric pottery and flint assemblage *in toto* is useful as an indicator of activity in the area, and the pottery in particular will add to the overall regional type series for Kent and contribute to an overview of prehistoric pottery in the county.

4.4 Environmental Potential

*Research Objective: Hunter-foragers (400,000 – 4500 BC), and
Research Objective: Early agriculturalists (4500 – 2000 BC), and
Research Objective: Farming Communities (2000 – 100 BC), and
Landscape Zone Priority: Establish the basis of the rural economy for all periods, and
Fieldwork Event Aim: Economic Basis of Agricultural Communities, and
Fieldwork Event Aim: Bronze Age and earlier use of the site*

- 4.4.1 Apart from pollen, not only is the palaeo-environmental information well preserved, but it will also enable the examination of changing woodland and exploitation of the local woodland throughout the Late Mesolithic, Neolithic and Early Bronze Age periods. The environmental potential is therefore not only for the specific research objective time periods in isolation, but also that it straddles the transition periods between research objective time periods. Although scarce, the cereal and charred plant remains can provide details of the economy and activities occurring on site in each period, as well as recording the developments in crops and farming from the Neolithic period onwards.

*Landscape Zone Priority: Reconstruction of the changing palaeo-environment, and
Fieldwork Event Aim: Determine the local environment of the site*

- 4.4.2 The soils and colluvial sequence that overlay the entire site was sampled. A full description of this should be provided to give a fuller site history and to provide some indication of post-Mesolithic and Neolithic soil erosion. However, given the poor conditions for pollen preservation and the comparative absence of secure chronological and/or stratigraphic indicators, it is unlikely that the development of the colluvium will be dated with any degree of accuracy.

- 4.4.3 However, there is potential to determine the nature and modification of the Mesolithic soil and local environment, and of specific on-site activities from soil micromorphology in combination with chemical analysis.

4.5 Dating Potential

Introduction

- 4.5.1 Axiomatic to the degree of archaeological potential that Sandway Road possesses is the need for secure dating. Therefore, the contribution that radiocarbon dating *et al.* may give to the site archive is almost inestimable, particularly with regard to the earlier (i.e. Mesolithic) prehistoric remains. As such, dating potential is considered against the Mesolithic remains below, but is applicable to all Research Objectives (with the exception of *Towns and their rural landscapes* and *The recent landscape*), Landscape Zone Priorities (with the exception of *Ritual and ceremonial use of the landscape*) and Fieldwork Event Aims. This is particularly valid where other means of obtaining secure dating (i.e. diagnostic artefacts) are absent.

*Research Objective: Hunter-foragers (400,000 – 4500 BC), and
Fieldwork Event Aim: Bronze Age and earlier use of the site*

- 4.5.2 The radiocarbon determinations obtained to date from Sandway Road demonstrate the enormous potential the site has for contributing to the study of Mesolithic remains at a national level. The importance of not only providing secure absolute dates to go with the well-recorded worked flint assemblage, but also that such dates are being obtained from charred cereal grains cannot be overstated. It is recommended that a further suite of radiocarbon determinations are obtained from similar charred remains, both from within the central pit 72, but also the outlying artefact scatters and features considered to be contemporaneous.
- 4.5.3 Because of the demonstrated potential for intrusive material indicated by the differing radiocarbon determinations already obtained, it would be unsafe to consider the smaller (<2mm) charred weed seeds as securely Mesolithic, and thus there is little or limited potential for further analysis from these elements where recovered. This contrasts slightly from the larger (>2mm) charred grains and charcoal fragments (and hazelnuts) which are less likely to be so mobile.
- 4.5.4 Although, as discussed above, great caution must be taken when obtaining radiocarbon dates from the very small organic remains recovered from Sandway Road, the Mesolithic radiocarbon dating record for south-east England and Kent in particular is extremely poor. Therefore such dating of an *in situ* lithic assemblage of this period would be of great importance, and it would therefore be considered paramount that such analysis occurs.
- 4.5.5 The Mesolithic radiocarbon record for south-east England, and for Kent in particular is extremely poor. There are currently no reliable Later Mesolithic radiocarbon dates associated with diagnostic lithic material from within Kent with the possible exception of the Stonewall Rock shelters in Chiddingstone (Jacobi 1982). Outside the county there are only a handful of reliable Later Mesolithic dates from Sussex, Surrey and the London area and very few of these are associated with diagnostic lithic assemblages. Arguably the most useful evidence in respect of the Sandway Road assemblage is the Hampshire site of Broom Hill, Braishfield, where parts of a Later Mesolithic assemblage (albeit contaminated by Neolithic material) were recovered from a pit from which five partly stratified conventional radiocarbon dates were also obtained (O'Malley and Jacobi 1978). At present this meagre

data is amongst the best typochronological evidence for the Later Mesolithic in south-east England.

4.5.6 The presence of a group of possible burnt-out tree-stump remains may point to prehistoric tree clearance. The radiocarbon dating of a carefully selected group, possibly in association with similar features from other sites in the area, may provide an indication as to whether they are isolated events or part of a wider episode, as well as providing an absolute date for the features in question.

4.5.7 As such, the aim of any additional dating would be to ascertain:

- *when did the Mesolithic activity occur*
- *how long did it last*
- *when did the Neolithic activity occur and what is the time span between this and the end of the Mesolithic activity*
- *do the burnt trees represent a single burning and clearance episode, and if so is this associated with the Mesolithic or Neolithic activity*

4.6 Overall Potential

Introduction

4.6.1 In assessing the overall potential of Sandway Road, a number of factors have been considered, including not only the contribution to any one particular objective, priority or aim that the data categories outlined above make, but the breadth and depth of all categories *en masse*. Specific research objectives assigned to each CTRL research strategy time period are discussed, followed by a consideration of the landscape zone priorities and fieldwork event aims that have informed those assessments of potential.

Time Periods

4.6.2 The following defined time periods are represented at Sandway Road

- *Hunter-foragers (400,000 – 4500 BC)*
- *Early Agriculturalists (4500 – 2000 BC)*
- *Farming Communities (2000 – 100 BC)*
- *Towns and their rural landscapes (100 BC – AD 1700)*

4.6.3 The results from Sandway Road for each time period have been assessed against the research objectives for those time periods, as defined in the CTRL Archaeological Research Strategy (URS 1999a, 64-7). Those research objectives not considered below have been assessed and considered inapplicable and/or inappropriate at this stage of the post-excavation assessment process. The possibility remains however that subsequent analysis may yield data that results in the reconsideration of currently discounted objectives.

Table 5: Summary of Principal Site Archive Potential

Objectives, Priorities and Aims	Data Category					
	Stratigraphy	Artefacts	Environmental	Dating	Other Assessments	Overall
Research Objective: <i>Hunter-foragers (400,000 – 4500 BC)</i>	H	H	H	H	L	H
Research Objective: <i>Early agriculturalists (4500 – 2000 BC)</i>	L	M / H	M / H	M / H	-	M / H
Research Objective: <i>Farming Communities (2000 – 100 BC)</i>	L	M	M	M	-	M
Research Objective: <i>Towns and their rural landscapes (100 BC – AD 1700)</i>	-	L	L	-	-	L
Research Objective: <i>The recent landscape (AD 1700 – 1945)</i>	-	-	-	-	-	-
Landscape Zone Priority: <i>Reconstruction of the changing palaeo-environment for all time periods present, through 'on-site' and 'off-site' studies and the interaction with past economies.</i>	L / M	L	H	M / H	-	M / H
Landscape Zone Priority: <i>Establish the basis of the rural economy for the area for all time periods, but especially through the recovery of material and environmental remains.</i>	L	H	M / H	M	L	M / H
Landscape Zone Priority: <i>The ritual and ceremonial use of the landscape.</i>	-	-	-	-	-	-
Fieldwork Event Aim: <i>Determine the extent and nature of Bronze Age and earlier prehistoric occupation and use of the site.</i>	H	H	H	H	-	H
Fieldwork Event Aim: <i>Recover individual artefacts and artefact assemblages and other indicators, such as faunal and charred plant remains from securely dated sequences to establish the economic basis of agricultural communities.</i>	-	M	M / H	M / H	-	M / H
Fieldwork Event Aim: <i>Determine the local environment of the site through the recovery of palaeo-environmental data from cut features and colluvial sequence.</i>	L	-	H	M / H	-	M / H
Fieldwork Event Aim: <i>Consideration shall be given to the recovery of suitable samples for C¹⁴ dating purposes.</i>	-	-	-	H	-	H

Key:

- L = Low Potential
- M = Medium Potential
- H = High Potential

- 4.6.4 Although the Environmental Assessment highlighted the recovery of Mesolithic worked flint by Lord Monckton in fields to the west of the site, little else is known about the prehistoric development of the area. As such, the site offers a rare opportunity to study land-use of an area, particularly during the late Mesolithic, Neolithic and Bronze Age periods.
- 4.6.5 The Mesolithic remains offer an unparalleled opportunity to study not only the lithic industry of the area, but also the environment and local economy at that time. If, as suggested by elements observed within the lithic (and ceramic) assemblage, this site does indeed represent a transitional phase between hunter-foragers and the Early Neolithic agriculturists then the potential of this site may extend even beyond a regional framework. As a result of the comprehensive sampling strategy, it may be possible to augment such analysis with a further suite of reliable radiocarbon dates.

- 4.6.6 Persistence of land-use is an aspect also observed in the distribution and alignment of the linear features recorded at the site. As with the hunter-forager/early agriculturist transition, this 'fossilisation' of an alignment within the landscape may also bridge the early agriculturist/farming community transition. It is uncertain whether sufficient Late Neolithic/Early Bronze Age ditches were recorded to indicate a stock-control function that may possibly be confirmed through detailed environmental analysis.
- 4.6.7 Although a few Late Iron Age/ Romano-British and medieval remains are recorded, it is considered that they have little potential to contribute to the research of towns and their rural landscapes, notwithstanding the contribution that the medieval ditches may have to the study of persistence of land-use discussed above.

Summary

- 4.6.8 Apart from the Mesolithic remains the range of feature types recorded at Sandway Road was largely unremarkable, with few inter-relationships recorded. Furthermore, it is very likely that many features, particularly towards the brow of the terrace overlooking the base of the slope to the north-west, have been truncated in antiquity. As such, from a stratigraphic viewpoint the remainder of the site offers little potential for further detailed analysis.

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6 ACKNOWLEDGEMENTS

6.1 Fieldwork

- 6.1.1 Wessex Archaeology was commissioned by Rail Link Engineering, who monitored the fieldwork on behalf of Union Railways (South) Limited; the assistance shown by Jay Carver (RLE) in particular is gratefully acknowledged.
- 6.1.2 Kent County Council (KCC) and English Heritage (EH) also attended monitoring visits; their comments and advice, and particularly those from Simon Mason (KCC) and Peter Kendal (EH) were also gratefully received.
- 6.1.3 Wessex Archaeology would also like to acknowledge Oakes Construction, and in particular Paul Rolfe, for the assistance shown in providing the plant necessary to complete the excavation.
- 6.1.4 The excavation fieldwork was managed by Andrew Crockett, directed by Dave Godden assisted by Phil Jefferson and Steve Legg, and carried out by Jo Best, Freya Gibson, Raquel Gomez, Chris Jones, Chris Lowe, Patrick McNulty, Bill Moffat, Stewart Morris and Jacky Pierce. In addition, in-house technical advice on environmental issues was provided by Dr M J Allen (Environmental Manager), and on the recovery of Mesolithic remains by John Lewis (Project Manager).

6.2 Post-excavation

- 6.2.1 The post-excavation programme was managed for Wessex Archaeology by Andrew Crockett, with the assistance of Lorraine Mephram (artefacts) and Mike Allen (environmental). Dr Michael Reynier (University of Leicester) provided the Mesolithic worked flint assemblage assessment. This report was compiled by Andrew Crockett and Dave Godden, with the illustrations provided by Rob Goller.

7 APPENDICES

7.1 Assessment of Pottery

Lorraine Mepham

Introduction

7.1.1 In total, 235 sherds of pottery were recovered during the fieldwork events itemised in **Table 1**. All pottery was recovered from hand-excavation.

7.1.2 In terms of addressing fieldwork event aims, the recovery and assessment of pottery is primarily to establish the economic basis of agricultural communities by placing such evidence in a secure chronological framework.

Methodology

7.1.3 For this assessment, the pottery has been quantified on a context by context basis by broad fabric group (e.g. sandy, flint-tempered), with spot dates and the presence of diagnostic material recorded.

Quantifications

7.1.4 The small pottery assemblage includes material of early prehistoric, later prehistoric, Romano-British, medieval and post-medieval date.

7.1.5 Pottery quantification by ware group for those fieldwork events conducted by Wessex Archaeology are provided in **Table 6**.

7.1.6 Recognisable Early Neolithic material (28 sherds) came from the fill of ditch/elongated pit **127**; these include three externally thickened or rolled rims from open vessels, all typical Early Neolithic forms. These sherds are generally in silty or sandy fabrics with relatively fine, well sorted flint, with well finished surfaces. Seventeen other sherds in similar fabrics (topsoil, three throws **28** and **35**, ditch **54**) could belong to the same tradition, but in the absence of diagnostic forms are less confidently attributed.

7.1.7 The Middle Neolithic is represented by 42 sherds, identified with varying degrees of confidence. Twelve body sherds from one context (pit **357705**), in coarse, flint-tempered fabrics, include a decorated rim and body sherds diagnostic of the Peterborough Ware ceramic tradition. At least three vessels are represented, in two different Peterborough Ware sub-styles: two Mortlake Ware vessels with expanded rims, twisted cord impressed decoration over the rim and one with finger impressions around the neck; and a smaller, pointed rim decorated with fingernail impressions. The latter is more characteristic of either the Ebbsfleet or Fengate sub-styles.

7.1.8 Identifiable sherds from other contexts include one rim, possibly of Ebbsfleet style (pit **133**) and five decorated sherds (colluvium, ditch **54**, pit **133**, burnt-out tree stump **49** and tree-throw **160**). These sherds are all in coarse, poorly sorted, flint-tempered fabrics, and 23 other plain body sherds in similar fabrics (colluvium, burnt-out tree stump **49**, tree-throws **21**, **35** and **160**, ditches **54** and **104**, ditch/pit **127**, pit **133**, artefact scatter **144**) could also belong to the Peterborough Ware tradition. In the absence of diagnostic rim or decorated sherds, however, these cannot be attributed with any degree of certainty. One sherd from ditch/pit **127** in a fine sandy fabric, although not chronologically distinctive, would not be out of place within a Neolithic assemblage. A further 24 sherds in less distinctive flint-tempered

fabrics have, at this stage, been dated merely as Neolithic/Bronze Age (unstratified, topsoil, subsoil, colluvium, ditch **355703**, ditch **54**, ?hearth **238**, artefact scatters **137** and **144**).

- 7.1.9 There are six sherds in grog-tempered fabrics (tree-throw **21**, ditches **54** and **104**), including one with impressed (?cross-hatched) decoration. Grog-tempered wares are common in Early to Middle Bronze Age ceramic traditions across southern England; these sherds are not particularly diagnostic although the decorated sherd (ditch **104**) could derive from either a Food Vessel or Middle Bronze Age urn.
- 7.1.10 Sherds which have been dated more confidently to the Middle Bronze Age consist of a significant group (76 sherds) from a single context (ditch **357703**). Six of the sherds are in coarse flint-tempered fabrics, and the remaining 70 in finer fabrics with well sorted flint inclusions. Such fabrics, both fine and coarse, are commonly found within the Deverel-Rimbury ceramic tradition of the Middle Bronze Age, the coarse fabrics deriving from bucket or barrel urns and the finer fabrics from globular urns. In this instance the finer flint-tempered sherds represent at least two globular urns: the upper part of a vessel of rounded form with simple, slightly in-turned rim and decorated with a band of impressed and shallow tooled decoration around the neck; and a second vessel of uncertain form with small perforated lugs.
- 7.1.11 A further 15 sherds, all small and abraded, and all in coarse flint-tempered fabrics (ditch **357703**; pit **363208**, tree-throw **21**, ditch **54**) are less diagnostic and are here dated broadly to the Middle/Late Bronze Age. While it is possible that at least some of these sherds could be attributed to either early Neolithic or Late Neolithic ceramic traditions, a later date is equally possible given the lack of diagnostic material. This also applies to the 24 sherds dated broadly as Neolithic/Bronze Age (see above).
- 7.1.12 Three plain body sherds, all in moderately coarse sandy fabrics have been tentatively dated to the Iron Age (subsoil, pits **357705** and **363208**), although none are sufficiently diagnostic for closer dating within this period.
- 7.1.13 Six sandy sherds, five from unstratified topsoil or subsoil contexts, and one from ditch **11**, are medieval in date, as is one sherd in a coarse shelly fabric, also from ditch **11** (probable date range 12th/13th century).
- 7.1.14 Seventeen sherds are all of post-medieval date, comprising glazed redwares, tinglazed earthenware and modern industrial wares. These derived mainly from unstratified and topsoil contexts, but two sherds were intrusive within artefact scatter **137**.

Provenance

- 7.1.15 Apart from a very few sherds from topsoil or unstratified contexts, all the pottery derived from stratified contexts, including cut features, three throws and colluvial deposits (see **Table 6**). In particular, the occurrence of much of the Neolithic pottery in stratified contexts is noteworthy.

Conservation

- 7.1.16 Overall condition is fair to poor, with most sherds small and heavily abraded; diagnostic sherds are scarce. There are no conflicts between further analysis and long term storage.

Comparative material

- 7.1.17 Neolithic pottery of any type is extremely rare in Kent, although find spots of Early Neolithic vessels (almost always isolated finds) are more common in the eastern part of the county (Dunning 1966). There are few notable groups of Peterborough ware in the county, beyond the well-known collection of Ebbsfleet ware from Northfleet (Burchell and Piggott 1939). Within the CTRL project, another small group of Early Neolithic pottery has been recovered from Saltwood Tunnel (ARC SFB99), and a small group of Middle Neolithic Peterborough ware from Little Stock Farm (ARC LSF99).
- 7.1.18 Early and Middle Bronze Age pottery is also uncommon, particularly the fineware element (Globular urns) of the Deverel-Rimbury ceramic tradition, as seen here in ditch **357703**.
- 7.1.19 Other pottery types of various dates (later prehistoric onwards) are not particularly distinctive, but almost certainly represent locally produced wares which fall within the known range for Kent (e.g. Macpherson-Grant 1991).

Potential for further work

- 7.1.20 Detailed analysis and publication is recommended for the Neolithic and Middle Bronze Age groups, as this will add to the overall regional type series for Kent. Moreover, such analysis will make a significant contribution to the CTRL Research Objectives for *Early Agriculturalists* (4500 – 2000 BC) and the *Bronze Age and earlier use of the site* Fieldwork Event Aim.
- 7.1.21 Analysis will involve full fabric and form analysis, following nationally recommended guidelines for the recording of prehistoric pottery (PCRG 1997). Fabric types will be correlated with the CAT regional fabric type series. A selection of diagnostic sherds will be illustrated.
- 7.1.22 The small quantity of other prehistoric pottery (Middle/Late Bronze Age and later) does not warrant detailed analysis or publication, but to fulfill the requirements of a minimum archive would be quantified by CAT fabric type, with notes made of any diagnostic sherds.
- 7.1.23 No further work is recommended for the post-medieval pottery.

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Table 6: Pottery quantification

Trench	Feature	Context	Count	Weight (g)	Fabric (Ware group)	Period	Comments
3575TT	Topsoil	357501	1	18	Redware	PM	
3575TT	Subsoil	357502	1	5	Sandy	?LIA	
3577TT	Topsoil	357701	1	12	Sandy	?ENE	
3577TT	Ditch 357703	357704	70	505	Flint-tempered	MBA	Globular Urn; includes rim and dec. body sherds
3577TT	Ditch 357703	357704	6	37	Flint-tempered	MBA	
3577TT	Pit 357705	357706	12	72	Flint-tempered	MNE	Peterborough Ware; minimum 3 vessels
3577TT	Pit 357705	357706	1	7	Sandy	?LIA	
3577TT	Ditch 357703	357708	1	1	Flint-tempered	NE or BA	
	Ditch 357703	357708	1	3	Flint-tempered	MBA/LBA	
3579TT	Topsoil	357901	1	1	Industrial	PM	
3579TT	Subsoil	357902	1	1	Flint-tempered	NE or BA	
3581TT	Topsoil	358101	1	60	Redware	PM	
3632TT	Pit 363208	363207	2	1	Flint-tempered	MBA/LBA	
3632TT	Pit 363208	363207	1	2	Sandy	?IA	
	Topsoil	-	2	30	Flint-tempered	NE or BA	
	Colluvium	-	1	6	tin glaze	PM	
	Colluvium	-	2	2	Sandy	MD	
	Unstratified	1	5	87	Redware	PM	
	Unstratified	1	6	37	Industrial	PM	
	Unstratified	1	1	7	Whiteware	MD	Glazed
	Unstratified	1	2	18	Sandy	MD	
	Unstratified	1	2	10	Flint-tempered	NE or BA	
	Ditch 11	10	1	2	Sandy	MD	
	Ditch 11	10	1	9	Shelly	MD	
	Tree-throw 21	22	2	10	Flint-tempered	?MNE	
	Tree-throw 21	22	1	4	Grog-tempered	?MBA	?MBA urn
	Tree-throw 21	22	9	18	Flint-tempered	?MBA	?Deverel-Rimbury
	Tree-throw 28	29	2	6	Flint-tempered	?ENE	
	Tree-throw 35	36	2	8	Flint-tempered	?ENE	
	Tree-throw 35	37	1	8	Flint-tempered	MNE	
	Burnt-out tree stump 49	50	2	19	Flint-tempered	MNE	Peterborough Ware; 1 decorated sherd
	Ditch 54	56	12	28	Flint-tempered	?ENE	
	Ditch 54	56	5	11	Flint-tempered	MNE	Peterborough Ware; 1 decorated body sherd
	Ditch 54	56	3	9	Flint-tempered	?MBA	?Deverel-Rimbury
	Ditch 54	70	3	11	Grog-tempered	EBA/MBA	
	Ditch 54	70	6	39	Flint-tempered	NE or BA	Probably Deverel-Rimbury
	Ditch 54	242	3	12	Flint-tempered	NE or BA	
	Colluvium	95	1	8	Flint-tempered	MNE	Peterborough Ware; decorated
	Colluvium	113	1	4	Flint-tempered	NE or BA	
	Ditch/pit 127	128	17	70	Flint-tempered	ENE	Open forms (three rims)

Contd.

Table 6: Pottery quantification (contd.)

Trench	Feature	Context	Count	Weight (g)	Fabric (Ware group)	Period	Comments
	Ditch/pit 127	129	11	61	Flint-tempered	?ENE	
	Ditch/pit 127	129	1	5	Flint-tempered	?MNE	
	Ditch/pit 127	132	1	2	Sandy	NE	
	Pit 133	134	1	8	Flint-tempered	MNE	Peterborough Ware (Ebbsfleet); rim sherd
	Pit 133	135	2	14	Flint-tempered	MNE	Peterborough Ware; 1 decorated body sherd
	Ditch 104	145	1	4	Flint-tempered	?MNE	
	Ditch 104	153	2	18	Grog-tempered	EBA/MBA	Decorated body sherd; Food Vessel/MBA urn?
	Tree-throw 160	159	5	16	Flint-tempered	MNE	Peterborough Ware; 1 decorated body sherd
	?Hearth 238	239	1	9	Flint-tempered	NE or BA	
	Artefact scatter 137	132701	1	1	Industrial	PM	
	Artefact scatter 137	221501	1	4	Redware	PM	
	Artefact scatter 137	222601	1	2	Flint-tempered	NE or BA	
	Artefact scatter 137	302901	1	4	Flint-tempered	NE or BA	
	Artefact scatter 144	297001	4	8	Flint-tempered	?MNE	
	Artefact scatter 144	317001	2	10	Flint-tempered	NE or BA	
	Artefact scatter 144	374951	1	4	Flint-tempered	MNE	
	Artefact scatter 144	384943	3	1	Flint-tempered	NE or BA	
	Artefact scatter 144	ON50	1	8	Flint-tempered	?MNE	
	Artefact scatter 144	ON57	1	6	Flint-tempered	?MNE	
	Artefact scatter 144	ON77	1	3	Flint-tempered	?MNE	
	TOTAL		235	1386			

7.2 Assessment of Ceramic Building Material

Table 7: CBM quantification

Trench	Feature	Context	Count	Weight (g)	Type	Period	Comments
3577TT	Topsoil	357701	3	26	Roof tile	?MD	Handmade
3579TT	Topsoil	357901	7	43	Roof tile	MD/PM	Some handmade
3579TT	Subsoil	357902	1	1	Undiag	?MD/PM	
3581TT	Topsoil	358101	1	5	Roof tile	?MD	Handmade
	Unstratified	1	3	114	Roof tile	MD/PM	Handmade
	Unstratified	1	1	17	Brick	PM	
	Ditch 11	10	1	20	Brick	PM	
	Tree-throw 118	119	1	2	Undiag	MD/PM	
	Artefact scatter 137	133101	2	1	Undiag	?MD/PM	
	Artefact scatter 137	172101	1	1	Undiag	?MD/PM	
	Artefact scatter 137	213601	1	1	Undiag	?MD/PM	
	Artefact scatter 137	222601	1	1	Undiag	?MD/PM	
	Artefact scatter 137	252701	1	1	Undiag	?MD/PM	
	Artefact scatter 137	271901	1	1	Undiag	?MD/PM	
	Artefact scatter 137	272001	1	1	Undiag	?MD/PM	
	Artefact scatter 144	246601	1	8	Roof tile	MD/PM	Handmade
	Artefact scatter 144	246901	1	6	Brick	PM	
	Artefact scatter 144	276801	1	1	Undiag	?MD/PM	
	Artefact scatter 144	286801	1	1	Undiag	?MD/PM	
	Colluvium		4	75	Roof tile	MD/PM	Handmade
	Colluvium		4	7	Undiag	?MD/PM	
	TOTAL		38	333			

7.3 Assessment of Fired Clay

Table 8: Fired Clay quantification

Trench	Feature	Context	Count	Weight (g)	Type	Spot date
	Tree-throw 5	4	1	1	undiag	undated
	Ditch 11	10	1	4	undiag	undated
	Ditch 54	70	3	22	undiag	undated
	Ditch 54	87	1	26	undiag	undated
	Ditch 104	153	4	22	undiag	undated
		TOTAL	10	75		

7.4 Assessment of Worked Flint

Dr M J Reynier

Introduction

7.4.1 In total 7,548 pieces of worked flint were recovered during the excavation, with an additional 65 pieces recovered during the preceding evaluation. For the purposes of this assessment a non-random subset sample of 1,088 pieces was examined from four distinct areas within the Mesolithic remains, comprising collection units within artefact scatters **137** and **144**, and pits **72** and **167**. This subset represents a *c.* 14.3% sample of the complete assemblage.

Methodology

7.4.2 The assessment was designed to:

- *estimate the approximate age of the assemblage*
- *explore the potential for horizontal patterning*
- *explore the potential for vertical patterning*
- *suggest useful directions for the analysis of the whole assemblage*

7.4.3 Differences in the spatial distribution of the various components of the worked flint assemblage across the site were explored using the four sampled units. This was done by collapsing the usual typological classes into four groups:

- *tools (all tool classes, including retouched and edge-damaged pieces)*
- *production waste (cores, core dressings, microburins and spalls)*
- *blades and flakes*
- *fragments*

Quantifications

7.4.4 Worked flint quantification by artefact type (**Figure 3**) is provided in **Table 9**. In summary, the sampled assemblage comprised 48 identified tools, including 26 points (all of which were microliths), two scrapers and four piercers. In addition there were 80 artefacts directly related to tool production, including eight cores and 27 microburins, and 250 complete blades and flakes. As is usual the majority of the sample was made up of fragments (*c.* 65% of the entire assemblage).

7.4.5 Microliths formed the largest class of tool, dominated by small convex-backed forms (five) and scalene micro-triangles (four). Both these forms are current in the Later Mesolithic period in Britain (*c.* 6750 - 3550 BC). Other microlith types identified include single examples of an obliquely truncated point, a partially backed point, a basally worked point and a straight-backed point. The first two types can occur throughout the Mesolithic period, while the straight-backed point is typically Later Mesolithic in character. The basally worked point, however, is more closely identified with a mid-Mesolithic date (i.e. the 7th millennium BC).

- 7.4.6 The remainder of the tool assemblage comprised two short end-scrapers and possible single blow burins, as well as four well-made bilateral piercers or awls. There is also an array of miscellaneous retouched and edge-damaged pieces.
- 7.4.7 The debitage assemblage is dominated by 27 microburins, the by-product of microlith manufacture. The close correspondence of microburins and microliths may suggest on-site manufacture of these points, a speculation testable by limited refitting. There are also eight cores, most of which are of the single platform/partly worked variety, and a limited array of core dressings, including crested and plunging pieces.
- 7.4.8 The laminar assemblage (complete blades and flakes) has a blade:flake ratio of c. 1:4. This approximates other recorded ratios for blade-based assemblages elsewhere in Britain and is generally considered to be indicative of the presence of Mesolithic technology. Worked flint assemblages from later periods (i.e. Neolithic and Bronze Age) typically yield blade:flake ratios of 1:9 or greater.
- 7.4.9 The frequency of fragments (c. 65%) is somewhat lower than might usually be expected in typical Mesolithic assemblages, where percentages approaching 90% have been obtained in high-resolution excavations. The significance of this feature is at present unknown but is more likely to relate to preservation, recovery or sampling biases than to genuine changes in flint reduction strategy.
- 7.4.10 In relation to the horizontal (i.e. spatial) distribution of material, each of the features examined was remarkably consistent in composition (**Figures 4-7**), however, two discrepancies:
- *the absence of tools in flint scatter 137 (Figure 4)*
 - *the increased frequency of complete blades and flakes in flint scatter 144 (Figure 5)*
- 7.4.11 These effects may be a result of scatter **137** being further from the centre of Mesolithic activity than scatter **144**. Full analysis of the assemblage will clarify these results.
- 7.4.12 In relation to the vertical (i.e. temporal) distribution of material for all flint categories, no notable anomalies were observed. The majority of the total assemblage occurs in the top 0.10 m of the soil profile. Smaller frequencies are recorded between 0.10 m and 0.20 m and only trace frequencies below this. There is no marked variation between the areas examined with the exception that scatter **137** is not represented below 0.20 m (**Figure 8**). A similar picture emerged when just the distribution of tools was examined (**Figure 9**).
- 7.4.13 The general stratigraphic pattern appears to suggest the assemblage was deposited over a relatively short period of time. There do not appear to be any discrete periods of re-use.
- 7.4.14 The entire sample was made of flint with the exception of three pieces made of chert. The colour of the flint varied from a light, semi-translucent grey (c. 50%) to a high quality translucent dark grey to black (c. 16%). A small percentage of the sample, particularly the dark grey/black flint, had a milky blue patina (c. 3%). Tools were made on both major colour-types of flint.
- 7.4.15 Where cortex was preserved this was often thick, dirty white in colour and possessed a smooth surface, somewhat chalky in texture. These features indicate that the raw material

was obtained from a secondary deposit, possibly head. The local flint was generally stained light brown to orange in colour and does not seem to have been used to any great extent.

Provenance

7.4.16 A relatively small proportion of the pieces examined exhibited recently chipped or otherwise damaged margins (c. 19%). This suggests that the assemblage has been extremely well preserved, and may therefore be considered to be relatively undisturbed.

7.4.17 No artefacts were examined in the sample that would contradict a mainly Later Mesolithic date (c. 6750 - 3550 BC). However, it is known that some younger Neolithic material is associated with the assemblage although not part of the sample assessed. At present it is felt that this later material is intrusive and that the main Mesolithic assemblage is uncontaminated. The oldest artefact examined (the obliquely-based point) would probably have been current in the earlier half of the Later Mesolithic. The remainder of the diagnostic artefacts would not be out of place in this context, although their currency also runs into the second half of the Later Mesolithic period.

Conservation

7.4.18 There are no conflicts between further analysis and long term storage

Comparative material

7.4.19 Very few substantial Mesolithic sites are known from within the modern county of Kent (Reynier 1998, 176), the majority of the material recorded for the county being stray finds or small unprovenanced groups. The nearest documented example of these comes just north of the neighbouring village of Harrietsham where a small 'Horsham' type assemblage (i.e. c. 7000 BC) was recovered by a local collector (Jacobi 1982). Stray finds belonging to the Later Mesolithic have also been recovered from the fields all around the villages of Harrietsham and Sandway, including Moncktons collections noted in the Environmental Assessment (URL 1994).

7.4.20 As far as formal sites are concerned very few exist, and virtually all of these belong to the Later Mesolithic period. For example Perry Wood, Selling (Woodcock 1975), Finglesham, Northbourne (Parfitt and Halliwell 1984), Priory Gardens, Orpington (Grey and Tyler 1991) and Well Hill, Chelsfield (Jones 1952).

7.4.21 Interestingly, Later Mesolithic sites from Kent, and those from south-eastern England in general, tend to be dominated by scalene micro-triangles and straight, bilaterally backed points ('rods'). The dominance of convex-backed points in the Sandway Road assemblage is therefore unusual. Indeed, no precise parallel material exists. Whether this statistic is an effect of the sample or reflects a genuine change in assemblage structure will become clear upon further examination of the remaining assemblage.

Potential for further work

7.4.22 On the basis of the 1,088 pieces examined in the assessment sample the following conclusions can be made:

- *The assemblage is predominantly of Later Mesolithic date (c. 6,750 - 3,550 BC)*
- *The assemblage may have formed over a relatively short time period*
- *There is some evidence of spatial variation across the site*

- *There is no evidence of sterile horizons*
- 7.4.23 The assemblage appears to be in excellent condition, a fact alone that should raise the possibility of a limited refitting programme. Not only would this shed light on how the assemblage was formed but it would also serve to clarify the tentative assumption made here that the assemblage formed over a relatively limited time period.
- 7.4.24 As outlined above, there is some evidence of spatial patterning across the site, notably in scatter **144**, although the small size of the sample from this area cannot preclude a bias. Because of the demonstrated potential for spatial patterning, it is probable that further detailed spatial analysis of the entire assemblage will indicate specific activity zones within the area.
- 7.4.25 No notable patterning was observed in the vertical distribution of the assemblage. Specifically there were no sterile horizons evident and the fall-off of the artefact frequency with depth is smooth. This suggests that the site was not re-used over a long period of time. These observations, together with the typological evidence presented above, argue that the site might have been formed over a comparatively short period of time.

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Table 9: Worked Flint quantification by artefact type

Artefact Type	Number	Group %	Total %
Tools			
Scrapers	2	4.17%	0.18%
Piercers	4	8.33%	0.37%
Burins	2	4.17%	0.18%
Projectiles (arrowheads)	0	0.00%	0.00%
Denticulates (& micro den)	0	0.00%	0.00%
Fabricators	0	0.00%	0.00%
Microliths	26	54.17%	2.39%
Core tools (axes etc.)	0	0.00%	0.00%
Other tools	0	0.00%	0.00%
Misc. retouch	14	29.17%	1.29%
(Tools sub-total)	48		4.41%
Production			
Flake cores & core frags	3	3.75%	0.28%
Blade(let) cores & core frags	5	6.25%	0.46%
Rejuvenation tablets	0	0.00%	0.00%
Crested pieces	3	3.75%	0.28%
Microburins	27	33.75%	2.48%
Chips	42	52.50%	3.86%
(Production sub-total)	80		7.35%
Blades & Flakes			
Blades & bladelets (inc. no broken)	49	19.60%	4.50%
Flakes (inc. no. broken)	201	80.40%	18.47%
(Blades & flakes sub-total)	250		22.98%
Fragments			
Debitage	710	100.00%	65.26%
(Fragments sub-total)	710		65.26%
Total	1,088		

7.5 Assessment of Burnt Flint

Table 10: Burnt Flint quantification

Context	No	Weight	Comments
U/S	11	92	
1	17	308	
10	1	4	
15	6	42	
49	8	4	
56	1	1	
64	4	1	
70	15	92	
73	11	34	Mesolithic pit 72 fill
73	69		Unit 4 small finds, not weighed
87	5	26	
103	10	42	
113	2	6	
116	3	4	
117	12	22	
122	5	42	
124	9	40	
126	1	4	
128	71	376	
129	42	432	
130	1	2	
131	4	10	
132	2	24	
134	3	6	
137	1		Unit 1 small finds, not weighed
138	1	1	
144	15		Unit 2 small finds, not weighed
149	38	368	
159	8	12	
163	2	8	
167	207		Unit 3 small finds, not weighed
168	3	4	
170	5	8	
172	3	4	
173	12	80	
174	2	16	
175	5	26	
176	11	72	
177	12	50	
178	12	100	
179	2	12	
180	99	486	
181	140	486	
182	166	488	
183	142	498	
184	147	394	
185	67	424	
186	223	470	
187	123	204	
188	74	408	

Contd.

Table 10: Burnt Flint quantification (contd.)

Context	No	Weight	Comments
189	26	130	
190	201	484	
191	114	132	
192	88	200	
195	35	46	
196	789	1356	
197	55	188	
198	1077	1634	
199	118	501	
200	139	540	
201	12	114	
202	801	1646	
203	185	538	
204	35	166	
205	34	76	
206	617	1220	
207	98	228	
208	70	430	
210	491	856	
211	28	56	
212	17	100	
213	13	44	
214	2	1	
215	47	66	
216	72	126	
218	21	30	
219	32	52	
220	50	102	
222	3	9	
223	36	36	
224	16	34	
227	8	4	
228	43	88	
229	11	22	
230	102	198	
231	65	118	
232	32	52	
233	23	50	
234	17	38	
235	61	162	
236	57	88	
237	25	2	
239	79	378	
241	55	252	
TOTALS	7733	18826	

Weight does not include Burnt Flint Small Finds recovered as 3-d recorded items from worked flint collection units 1 – 4.

7.6 Assessment of Metalwork

Table 11: Metalwork quantification

Feature	Context	Obj No	Material	Count	Period	Comments
Unstratified	1	1500	Cu alloy	1	UN	Folded strip
Unstratified	1	1501	Cu alloy	1	PM	?vessel frag
Unstratified	1	1502	Iron	1	UN	Object
Ditch 11	10	1503	Iron	1	MD/PM	Nail
Ditch 54	70	1	Cu alloy	1	?BA	Rod (pin shank?)
Tree-throw 118	119	1504	Iron	1	MD/PM	Nail
			Total	6		

7.7 Assessment of Worked Stone

Table 12: Worked Stone quantification

Trench	Feature	Context	Count	Weight (g)	Material	Comments
3577TT	Ditch 357703	357704	2	3350	Sandstone	Saddle quern frags
		Total	2	3350		

7.8 Assessment of Macroscopic Plant Remains and Charcoal

Introduction

7.8.1 A large series of bulk samples was taken from sealed contexts to recover charred plants remains and charcoal to aid in determining the following for each defined phase:

- *the archaeological significance of the deposits and thus the site*
- *the nature of the local environments*
- *selection of woodland species for general and specific activities*
- *the use of the wild and cultivated resources*
- *the nature of specific activities undertaken on site, and thus the general economic status of the site*

Methodology

7.8.2 Samples were selected for processing according to the following criteria

- *A broad range of feature types was to be examined.*
- *Samples should be spatially arranged across the entire site, and*
- *Where possible, all chronological periods represented at the site should be examined.*

7.8.3 Based on these criteria, 42 bulk samples of between 1 and 10 litres were processed from Mesolithic pit **72**, and a further twelve samples of generally 10 litres were processed from a range of ditches and other features/deposits of generally prehistoric date. Samples from some undated features were also processed, partially to attempt to recover dating evidence (inc. charcoal for radiocarbon dating purposes).

7.8.4 All bulk samples were processed for the recovery and assessment of both charred plant remains and charcoals, and artefacts. Standard processing methods were used, with a 4 mm mesh being used for the coarse fraction.

Quantifications

7.8.5 The quantification of macroscopic plant remains and charcoal by sample per context for those fieldwork events conducted by Wessex Archaeology are provided in **Table 13**.

7.8.6 Low numbers of charred grain fragments were recorded in 11 samples and a few charred weed seeds, including hazel nut fragments, were observed in 17 samples from the Mesolithic pit **72**.

7.8.7 Small quantities of both charred grain and charred weed seeds were present in two samples from the Middle Bronze Age ditch **54** (including hazelnut fragments in one of these). Only a few charred weed seeds were retrieved from Middle Neolithic pit **133** and from the similarly dated burnt-out tree stump **49**.

7.8.8 Small quantities of charcoal fragments of greater than 5.6mm were recovered from 12 of the samples from the Mesolithic pit **72** and from two of the samples from the Middle Bronze

Age ditch **54**. Large amounts of charcoal were recorded in both samples from Middle Neolithic pit **133** and from the Middle Neolithic burnt-out tree stump **49**, all predominantly comprising large wood fragments.

- 7.8.9 The presence of hazelnuts is particularly common on Mesolithic sites, and the majority of occurrences at Sandway Road are from contexts presumed to be Mesolithic (6 out of 8 samples); the remainder from Middle Neolithic and Middle Bronze Age contexts. It is of note that the hazelnut fragment submitted for AMS dating from pit **72** yielded a calibrated date of 8590-8090 BC (i.e. Early Mesolithic).

Provenance

- 7.8.10 The samples generally produced small flots (average flot size for a 10 litre sample is 60 millilitres) with between 1 and 80% rooty material and varying quantities of uncharred weed seeds. Large quantities of both categories can be indicative of stratigraphic movement. The AMS dating results indicate that pit **72** at least contains both residual and intrusive material at the macroscopic level.

Conservation

- 7.8.11 There are no conservation issues that conflict with long term storage for the sorted residues and extracted flots. However, the unprocessed samples, although currently stored in stable conditions, cannot remain so in perpetuity, and as such a decision regarding discard/retention needs to be reached.

Comparative material

- 7.8.12 Although the Mesolithic samples produced relatively little in the way of charred remains, over 25% (11 of 42) contained charred cereal grain. Recovery of grain in these samples is of some concern as in Britain no cereal grain has been positively identified as Mesolithic from any site in Britain, despite occasional records of rare large *Poacea* pollen spores, which some have considered as being cereal, in Mesolithic contexts (cf. Edwards 1988, 1990).

- 7.8.13 A possible conclusion could be that the grain from the assessed flots, although taken from 'secure' Mesolithic contexts must have worked their way into these horizons by bioturbation, the most likely cause being biotic activity such as roots or soil fauna (e.g. worms). The relatively high numbers of unburnt weed seeds in most samples seem to confirm this. However, the AMS dating results indicate that whilst both residual and intrusive material is present, there is, nevertheless, a definite Late Mesolithic element to the charred cereal grain assemblage.

Potential for further work

- 7.8.14 Charcoal will provide detailed information on the local woodland and thus floral composition and change. It is unlikely, however, due to poor preservation that this can be corroborated by detailed analysis of pollen. Charcoal analysis may, however, not only provide evidence of the natural vegetation, but evidence for human clearance and changes of that vegetation which may consequently have irrevocably altered the nature of the soils, and even lead to the initiation of soil erosion and hillwash deposits.

- 7.8.15 Given the enhanced potential for the site as a whole to contribute to the study of early prehistory in Kent, it is recommended that all remaining samples are processed and sorted to augment the ecofact and micro-artefactual assemblages already obtained.

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Table 13: Ecofact quantification

Sample Details				Flot Details							Residue Details
Feature	Context	Sample	Size (litres)	Size (ml)	Grain	Chaff	Weed Seeds		Charcoal >5.6mm	Other	Charcoal >5.6mm
							Unburnt	Burnt			
SWR98 Evaluation											
MNE Tree-throw 357705	357706	1	15	50 ^{7.5}			++	+	+		+
MBA Ditch 357703	357704	2	15	25 ^{17.5}			++	+	+		
Hearth (BTS?) 363204	363203	3	15	1000 ¹⁵⁰			+	+	++		
SWR99 Excavation											
(Pre?) ME Pit 167	166	73	10	15 ^{7.5}			++	+			
ME Pit 72	73	6	10	35 ²¹			++		+		
	116	7	10	30 ²¹	+		++	+	+		
	117	8	10	30 ^{22.5}			++				
	375151	32	10	40 ³⁰			++	+(h)			
	364851	37	4	20 ¹²	+		++				
	364951	38	1	10 ⁵			+				
	385051	39	4	30 ¹⁸			++		+		
	384951	40	1	10 ⁶			+				
	374851	41	6.5	15 ¹²			++				
	384961	42	2	10 ⁵			+	+			
	394831	43	6	30 ^{22.5}			++	+	+	+	
	345031	44	5	20 ¹²		+	+	+	+		
	374831	45	5	20 ¹⁵		+	++				
	395041	46	5	15 ¹²			+				
	355051	47	5	15 ⁹			+				
	384841	48	5	25 ^{18.75}			++				
	375051	49	4	15 ^{7.5}		+	++	+(h)			
	374841	50	4	25 ^{17.5}		+	++		+		
	364841	51	5	15 ⁹			++	+			
	374961	52	3	15 ¹²		+	+	+(h)			
	375041	53	6	25 ¹⁰			++				
	355041	54	4	20 ¹⁵			++	+	+		
	385041	55	4	35 ²¹			++				
	384831	56	5	40 ³⁰			++	+	+		
	364831	57	4	15 ¹²			++	+			
	344831	58	2	15 ⁹			+				
	354831	59	6	25 ²⁰			++		+		
	375031	60	6	25 ^{12.5}			++				
	355031	61	5.5	25 ¹⁵			++				
	385031	62	5	25 ^{18.75}			+	+(h)	+		
	395031	63	6	25 ²⁰			++	+	+		
	375061	64	6	10 ⁶		+	++				
	355061	65	4	10 ⁶			++				
	375071	66	5	5 ^{1.25}		+	++	+			
	385061	67	5	15 ^{11.25}			+	+(h)	+		
375081	68	4	5 ^{2.5}		+	++					
354961	69	2	3 ^{1.5}			+					
374971	70	2.5	10 ⁵		+	+	+				
364961	71	2	10 ⁴			+					
364971	72	2.5	5 ^{2.5}			+					
354951	74	2	5 ⁴			+					
374951	75	2	10 ⁵			+	+(h)				
ME Pit 156	155	29	10	30 ¹⁸			+	+	+		
MNE Pit 133	135	9	10	425 ^{4.25}			+		++		
	134	10	9	120 ^{2.5}			+	+	++		
MNE Tree-throw 160	159	36	10	40 ²⁶			++	+(h)			
MNE BTS 49	50	1	10	500 ³⁵			+	+	++		
MBA Ditch 54	70	3	10	25 ^{12.5}	+		++	+(h)	+		
	87	4	10	5 ²			++				
	89	5	10	10 ^{1.5}	+		+	+	+		

Contd.

Table 13: Quantification of Ecofacts (contd.)

Sample Details				Flot Details							Residue Details
Feature	Context	Sample	Size (litres)	Size (ml)	Grain	Chaff	Weed Seeds		Charcoal >5.6mm	Other	Charcoal >5.6mm
							Unburnt	Burnt			
SWR99 Excavation (contd.)											
Tree-throw 151	152	26	10	30 ¹⁰			+	+	+		
	152	27	10	20 ⁵			+	+	+		
BTS 63	64	2	5	30 ³			+		+		

Key: BTS = Burnt-out tree stump; Flot size in ^{superscript} = ml of rooty material; h = hazelnut; + = 1-10, ++ = 11-50
 ME = Mesolithic; MNE = Middle Neolithic; MBA = Middle Bronze Age

7.9 Assessment of Soil Micromorphology

Dr M J Allen

Introduction

7.9.1 A series of five undisturbed soil micromorphology samples were taken in kubiena tins, complemented by a suite of disturbed bulk samples. These sampled the *in situ* Mesolithic soil horizons in both the northern spread **144** and southern spread **137** (including the underlying natural sand **140**), as well as Mesolithic pit **72** and tree-throw **151**.

7.9.2 The potential of these samples and the pedological criteria has been discussed with Dr R I Macphail (Univ. London), and Drs C A I French and H Lewis (Univ. Cambridge).

7.9.3 In addition, soil monoliths were taken through the fill of pit **72** and the colluvium that sealed the Mesolithic site, both for pollen analysis and descriptive and interpretative purposes.

Methodology

7.9.4 The soil samples were described following pedological notation outlined in Hodgson (1976).

Quantifications

7.9.5 Description of sands in southern spread area **137**

- *0 – 70 mm (?bBh) Context 137. Medium loose sand with some silt, slightly humic matrix, some vertical worm/root channels with humic silty loam ('A' horizon) material – no structure observed, few very fine fleshy roots, gradual smooth boundary.*
- *70 mm+ (?Rw) Context 140. Medium sorted sand, strong orange colour – Folkestone Beds – no structure observed, some vertical macropores up to 4mm in diameter with humic silty loam material.*

7.9.6 Mesolithic pit **72** contained the most humic fill of this period, indicating that it may be derived from the Mesolithic land surface. The single fill, **73**, was sampled with a kubiena tin and as a small bulk sample. In addition, as this was the deepest Mesolithic profile, a 0.3 m monolith for pollen analysis was also taken.

7.9.7 Description of fill in pit **72**

- *0 – 70 mm: A dark humic medium sandy loam with very rare small and medium flints with occasional fine fleshy roots and 0.2% medium macropores (4 mm diameter) with more humic 'A' horizon material, gradual smooth boundary.*
- *70 mm – 300 mm: Loose fine and medium sandy loam with very rare small and medium flints with occasional fine fleshy roots and 0.2% medium macropores (4 mm diameter) with more humic silty material.*

Provenance

7.9.8 The pedological description provides evidence of the local site-specific soil history.

Conservation

- 7.9.9 There are no conservation issues that may affect further analysis.

Comparative material

- 7.9.10 Comparative soils that are published are known in the Surrey Heathlands and the Dorset Heath. There are also parallels of Mesolithic activity on heathlands from Hampstead, North London, and via palynological analysis at Wytch Farm, Dorset (Allen and Scaife 1991).

Potential for further work

- 7.9.11 The soil history obtained from this analysis may elucidate various anthropogenic events such as clearance, burning of woodland, soil disturbance for occupation etc. The topsoil from the two Mesolithic spreads has been truncated or reworked into the overlying colluvium, but the main soil events can be discerned from this truncated horizon. The nature of the topsoil, however, can be determined from the humic fill of pit 72, which is likely to have filled either naturally or by dumping, with topsoil material. Specific Mesolithic activities may be discerned from these contexts.
- 7.9.12 Evidence of soil degradation, tillage and erosion can be discerned from the detailed description and interpretation of the colluvium which was sampled in a long monolith tin. This will augment data from the charred plant remains to provide a site history and scheme of landscape degradation caused by human activity
- 7.9.13 In order to define the nature of the pre-Mesolithic and Mesolithic soil, and any associated activity, it is proposed therefore that four soil micromorphology slides are prepared to facilitate full soil micromorphological study.
- 7.9.14 The descriptions will be used to interpret the soil history and erosional events relating to archaeological activity. Despite the evidence of biotic re-working the deposits are *in situ* and provide the potential to examine the nature of the former Mesolithic soils prior to major anthropogenic change in the Bronze Age (cf. Macphail 1983; Scaife and Macphail 1983; Allen and Scaife 1991). Further, soil micromorphological studies will provide detailed information on the nature of bioturbation which is so critical to the presence of charred cereal remains in these contexts.

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