

**Channel Tunnel Rail Link
London and Continental Railways
Oxford Wessex Archaeology Joint Venture**

**The charred plant remains from Sandway Road,
Lenham, Kent
by John Giorgi**

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TABLE OF CONTENTS

1	INTRODUCTION	3
2	METHODS	3
3	RESULTS	4
3.1	Mesolithic Pit [72].....	4
3.2	Middle Neolithic Tree-Throw [160].....	4
3.3	Middle Bronze Age Ditch [54].....	4
3.4	Undated tree-hole [158].....	4
4	DISCUSSION	5
5	BIBLIOGRAPHY	6

LIST OF TABLES

Table 1:	Charred plant remains from Sandway Road.....	7
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1 INTRODUCTION

A total of 64 environmental bulk soil samples were collected during the evaluation and excavations at Sandway Road (ARC-SWR99) from features dating from the Mesolithic period to the middle Bronze Age. Fifty-seven of these samples were processed and assessed. The majority (42) of the samples were from a Mesolithic Pit [72] while four other samples were collected from the fills of two other Mesolithic Pits ([156] and [167]) and a middle Neolithic Pit [133]. Four samples were also taken from tree-throws (two of which were dated to the middle Neolithic period), three samples from three burnt-out tree stumps (one of which was also dated to the middle Neolithic), while the remaining four samples were from the fills of two middle Bronze Age Ditches [54] and [357703].

Assessment (URS 2001) showed preservation of charred plant remains to be poor with only small amounts of material present, consisting mainly of variable amounts of very fragmented charcoal plus hazel nut (*Corylus avellana*) shell fragments, very occasional cereal remains and weed seeds. Twenty samples were selected for further study, 16 from the fills of the Mesolithic Pit [72], two from the middle Bronze Age Ditch [54] fills [70] and [89], one sample from the fill [159] of the middle Neolithic tree-throw [160] and another sample from the fill [157] of an undated tree-hole [158].

2 METHODS

The samples were processed by flotation with flots retained on a 0.5mm mesh and residues on a 1mm mesh. The assessment of the material was carried out at Wessex Archaeology. The samples from the 20 samples selected for analysis were sorted, prior to recording, by staff at Oxford Archaeology. The sorted charred plant remains were identified by Alys Vaughn-Williams and some of this material was also examined by the author, Dominique de Moulins (English Heritage) and Chris Stevens (Wessex Archaeology); preliminary identification of two cereal grains in potential Mesolithic features was carried out by Martin Jones and Alan Clapham before these grains were ¹⁴C dated. The abundance of hazelnut shell fragments and charcoal was estimated using a scale of + (1-10), ++ (11+ items). The plant taxa identified from each sample are shown in table 1 at the end of the report.

3 RESULTS

3.1 Mesolithic Pit [72]

The charred plant remains from 16 samples selected for analysis from the Mesolithic period were all from Pit [72]; 15 of the samples were from fill [73] while the remaining sample was from fill [116].

These samples produced very few charred plant remains consisting mainly of very fragmented charcoal, occasional hazelnut shell fragments plus a little cereal debris and a few weed seeds.

The cereal remains consisted of four grains and a rachis fragment in samples from pit fill [73]. Two of the grains, from sample <37>, were identified as possibly barley or wheat (cf. *Hordeum/Triticum* spp.), while the two other grains, from samples <45> and <52>, were too poorly preserved to be identified further. A single wheat (*Triticum* sp.) rachis fragment was sorted from sample <68>.

Occasional charred hazelnut shell fragments were recovered from nine of the pit fill [73] samples while four charred weed seeds were identified in three samples; corn spurrey (*Spergula arvensis*) in fill [116] (sample <7>) and fill [73] (sample <44>); wild cabbage, mustard etc (*Brassica/Sinapis* sp.) in fill [116] (sample <7>); and possibly corn gromwell (cf. *Lithospermum arevense*) in pit fill [73] (sample <52>). Both corn gromwell and corn spurrey are common weeds of disturbed (including arable) ground. Several charred items could not be identified.

Virtually all the samples contained small quantities of mainly very fragmented charcoal, with larger fragments (greater than 5.6mm) being recovered from just five samples.

3.2 Middle Neolithic Tree-Throw [160]

The charred plant remains from the sampled fill [159] of a tree-throw [160] produced two shell fragments, possibly of hazelnut, and a large amount of very fragmented charcoal.

3.3 Middle Bronze Age Ditch [54]

The sampled fill [89], of Ditch [54], contained two grains, one possibly of a wheat grain and one of either barley or wheat. There was an indeterminate item in another fill [70] of this ditch. Both samples contained frequent fragmented charcoal including a number of large fragments (greater than 5.6mm).

3.4 Undated tree-hole [158]

Sample <33> from the fill [157] of an undated tree-hole [158] produced just two charred hazelnut shell fragments.

4 DISCUSSION

The recovery of cereal grain in potential Mesolithic deposits within Pit [72] is of particular interest because no charred cereal grains have previously been definitely identified from Mesolithic features in Britain.

The pit, from which the cereal grains were recovered, needs to be considered in a little more detail. Pit [72] was a shallow feature with a depth of around 0.3 m and a diameter of about 3 m., which was sampled on a 10 cm grid basis both spatially and temporally. This was cut by a probable middle Bronze Age ditch. The potential for the presence of both residual and intrusive material within this feature is high, with both rootlets (forming between one and 80% of the contents of the flots) and varying quantities of uncharred weed seeds being present in the samples. This was also confirmed by the 14C dates (see below).

Two possible cereal grains were examined before being submitted for 14C dating along with charred hazelnut fragments. One of the grains, from sample <44> from the uppermost Spit 31 (at a depth of 0-5cm), was identified as possibly wheat and 14C dated to 1950-1690 BC (early to middle Bronze Age); this suggests intrusive material in the pit, possibly contamination from the ditch. More interestingly, the other grain, identified as wheat/barley by Martin Jones and Alan Clapham, from sample <49>, produced a 14C date of 5930-5660 BC from Spit 51 at a depth of 10-15cm. This would place the find in the Mesolithic period. There is, however, a question as to whether this item is definitely a cereal grain. The grain has now been destroyed for dating although the photographic evidence does not appear to show either a distinctive ventral furrow or embryo although it does have the general morphology of a grain. The potential for mixing even within and between the spits is illustrated by the fact that hazelnut shell fragment from the same spit produced a much older 14C date of 8590-8090 BC (early Mesolithic).

The other cereal grains discussed in this report were from samples collected at various depths within Pit [72]; sample <45> (Spit 31 at a depth of 0-5 cm), <37> (Spit 51 at a depth of 10-15 cm) and <52> (Spit 61 at a depth of 15-20 cm). The wheat rachis fragment was from sample <68> from the basal spit 81, which at a depth of 25-30cm, could be considered to be the most securely stratified deposit. It has been argued, however, that the good condition of this rachis fragment (possibly from a hexaploid wheat), suggests that the item is not Mesolithic but represents intrusive material. This sample did contain other intrusive material in the form of rootlets and uncharred weed seeds.

On the basis of the variable 14C dates within and between spits within Pit [72] and the presence of intrusive and residual material within the feature, it is not considered possible to use the information from these identified cereal grains in a general discussion of the site (with the exception of the 14C dated Bronze Age grain which would not be considered unusual for

that time). No further comment can be made at this point surrounding the uncertainty of the identification of the dated Mesolithic item as a grain, although other opinions may be sought at some point on the basis of the photographic evidence.

Charred hazelnut shell on the other hand has been frequently recovered from Mesolithic sites (Greig 1991) and would have provided an important food resource both for immediate consumption and for long-term (seasonal) storage. Archaeobotanical evidence from British sites suggests that hazelnuts continued to be an important part of the food economy into the Neolithic period (Moffett *et al* 1989) thus their presence in the sampled fill [159] of a middle Neolithic tree-throw [160] cannot be considered unusual.

Little comment may be made on the presence of possible wheat and barley grain in the middle Bronze Age Ditch [54]; both cereals were being extensively cultivated by this time (Greig 1991) and probably represent the residues of accidentally charred grain burnt during the latter stages of crop-processing or before consumption.

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Table 1: Charred plant remains from Sandway Road

	period:	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	MNE	MBA	MBA	?
	type:	P 72	P 72	P 72	P 72	P 72	P 72	P 72	P 72	P 72	P 72	P 72	P 72	P 72	P 72	P 72	P 72	TH 160	D 54	D 54	TH 158
	context no:	116	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	159	89	70	157
	sample no:	7	32	37	42	44	45	49	50	52	62	64	66	67	68	70	75	36	5	3	33
	vol. flot (ml)	30	40	20	10	20	20	15	25	15	25	10	5	15	5	10	10	40	10	25	20
	sample size (litres)	10	10	4	2	5	5	4	4	3	5	6	5	5	4	2.5	2	10	10	10	10
latin name	common name																				
Cereal grain																					
cf. <i>Triticum</i> sp.	?wheat																		1		
<i>Hordeum/Triticum</i> sp.	barley or wheat																		1		
cf. <i>Hordeum/Triticum</i> spp.	?barley or wheat			2																	
Cerealia	indet. cereal						1			1											
total grain				2			1			1									2		
Cereal chaff																					
<i>Triticum</i> sp.	wheat rachis														1						
total chaff fragments															1						
Wild plants																					
<i>Brassica/Sinapis</i> sp.	wild cabbage, mustard etc.	1																			
<i>Spergula arvensis</i> L.	corn spurrey	1				1															
<i>Corylus avellana</i> L.	hazelnut shell fragments		+					+	+		+			+		+					+
cf. <i>C. avellana</i>	?hazelnut shell fragments				+					+								+			
cf. <i>Lithospermum</i> sp.	?gromwell										1										
indeterminate	-															2				1	
total wild plants		2				1					1				2					1	
indeterminate	charcoal	+	++	+	+	++	+	+	+	+	+		+	++		+	+	++	++	++	
total items		2	-	2	-	1	1	-	-	1	-	1	-	-	3	-	-	-	2	1	-

Key

Period: ME= mesolithic; MNE = middle Neolithic; MBA = middle Bronze Age; ? = undated

Features: P = pit; TH = tree hole/bowl; D = ditch

Item frequency: + = 1-10 items; ++ = 10+ items