

**Channel Tunnel Rail Link  
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**The charred plant remains from Westenhanger  
Castle, Stanford, Kent**

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## 1 INTRODUCTION

Forty-six samples were taken from the excavations at Westenhanger Castle (WSG 98, WSC 98). Many of the samples produced few to no cereal remains. In particular the material from four prehistoric sampled features was quite sparse and poorly preserved. However, seven medieval samples were exceptionally rich, with a very good state of preservation. Thirty-seven samples were analysed. Two of these came from Iron Age features and a further one from a Bronze Age ring-ditch. Eight from medieval and post-medieval features while the remainder came from early medieval features.

## 2 METHODS

To counter the high clay content the samples were soaked in a weak hydrogen peroxide solution (1%) prior to processing. The samples then underwent bucket flotation with the flot caught upon a 0.5mm mesh. The residues were then washed through 1mm and 2mm meshes. The residues were then sorted for environmental material and other finds, the finer fraction being examined using a low-powered microscope.

Three samples from pit/oven context 156 were especially rich. In one case only one fifth of the sample was examined, in the other two cases estimates were produced from the examination of one tenth of the smaller fractions. The results are presented in table 1 (see at the end of this following the nomenclature of Stace (1997)).

## 3 RESULTS

### 3.1 Prehistoric features (Phases 1 and 2)

Three samples were examined from prehistoric features, one from a Bronze Age ditch 45 and two from Iron Age ring gullies), Groups 3, 174 and 164.

The Bronze Age sample produced several grains of free-threshing wheat (*Triticum aestivum*), a rachis fragment, possible grains of rye (*Secale cereale*) and oats (*Avena* sp.) and a single grain of barley. While all of these have been recovered from Bronze Age Britain, rye is certainly not commonly recorded (Greig 1991). That rye, along with free-threshing wheat, forms the main constituent of the later phases of activity on the site might suggest that they are intrusive contaminants that have become reworked into earlier deposits.

The Iron Age also produced assemblages that did not accord with their phasing. Free-threshing cereals while again not unrecorded from Iron Age contexts are not believed in the whole to have been widely cultivated during this period, appearing rather as rogue crops or

‘weeds’. The number of grains from gully 174 would be high for an Iron Age site and suggests reworking of later material into older deposits. It is notable that for many Iron Age sites where free-threshing wheat is recovered from apparently secure Iron Age features that later Saxon or medieval activity is also present, for example at Bierton (Jones 1987).

No remains of hulled wheats (*Triticum dicoccum/monococcum*) were recovered from these samples and the remains of hulled wheats from later medieval samples are more probably re-worked material Iron Age features. Such reworking is especially problematic when dealing with relatively shallow features such as gullies. Unfortunately no securer deeper features, such as pits or wells, were present for sampling to allow comparison between the assemblages.

### 3.2 Early medieval (Phase 3)

The early medieval samples produced the richest assemblages seen for any single phase. Cereal remains were present in many of the samples and relatively abundant within two features, gully 82 and an adjacent pit, 156.

Pit 156, produced the majority of the charred remains and so is the main source of information for the early medieval economy. Eleven samples were examined from the feature, although not all produced rich assemblages. Grains of oats (*Avena* sp.) dominated all the samples, although in several rye (*Secale cereale*) grains were also highly abundant. While wild and cultivated oats cannot be distinguished from their grains it is possible from the remains of floret bases or spikelets. Those recovered that were identifiable point to the presence of cultivated oats.

Grains of free-threshing wheats (*Triticum aestivum* s.l) formed a relatively minor component, and barley was represented only by the occasional grain. Chaff of rye was quite high within these samples although never outnumbering grains. While rachis fragments of free-threshing wheat were recovered, none of these were well enough preserved to identify whether they came from tetraploid (e.g. durum wheat) or hexaploid (e.g. bread wheat) varieties. Grains and rachis fragments of barley (*Hordeum sativum* s.l) were only represented by the occasional item. Some chaff fragments of hulled wheats emmer or spelt (*Triticum dicoccum/spelta*) were present, of which one was identified as spelt wheat (*Triticum spelta*) from ditch 172.

The rich sample from gully 82 differed from the assemblage in the pit in that grain and rachis fragments of free-threshing wheat, rather than rye, prevailed. The remaining samples contained predominately just a few grains of free-threshing wheat, barley and possibly oats with a few weed seeds of similar nature to that

The only other remains of a cultivated species were a few finds of ‘celtic’ bean (*Vicia faba* ssp. *minor*) recovered from gully 82 and pit 156.

Seeds of wild species were relatively scarce in all but those samples already discussed, pit 156 and gully 38, which both also contained high numbers of rachis fragments. The most commonly represented species were those of goosefoots (*Chenopodium* spp.), chickweed (*Stellaria media*), docks (*Rumex* spp.), vetches/wild pea (*Vicia/ Lathyrus* spp.), ribwort plantain (*Plantago lanceolata*), stinking mayweed (*Anthemis cotula*) and grasses. Many of the seeds of ribwort plantain were still joined, while several seedheads and seedhead fragments of stinking mayweed were also present in pit 156. Other species included buttercup (*Ranunculus acris/repens/bulbosus*), redshank/persicaria (*Persicaria maculosa/lapathifolia*), black bindweed (*Fallopia convolvulus*), scarlet pimpernel (*Anagallis* cf. *arvensis*), cleavers (*Galium aparine*), knapweed (*Centaurea* sp.), thistle (*Cirsium/Carduus*), and spikerush (*Eleocharis palustris*).

### 3.3 Later medieval (Phase 4)

Only one later medieval sample was examined from ditch 46. This produced relatively few remains, few of which could be identified to species level. A single cereal rachis of free-threshing wheat was recovered and some oats (*Avena* sp.). No other seeds were recovered.

### 3.4 Post-medieval (Phase 6)

A single post-medieval sample was examined although it contained relatively few remains, a single seed of buttercup (*Ranunculus acris, bulbosus, repens*) and another of orache (*Atriplex* sp.). The sample had no cereal remains.

## 4 DISCUSSION

Due to the taphonomic problems outlined for the prehistoric features, and the general absence of remains dated to the later medieval period, only the early medieval period is discussed.

The crops represented within the early medieval samples were on the whole typical of those recovered from medieval sites, with both free-threshing wheats and rye being predominant crops. While rye dominated the samples from pit 156 it is notable that relatively few grains of rye were present in the other samples, with mainly occasional grains of free-threshing wheats and barley being present. This might suggest that free-threshing wheats and barley were the more common crops utilised at the site.

The high number of rachis fragments of rye and free-threshing wheat from pit 156 and gully 82 respectively suggests the presence of earlier crop-processing stages surrounding the braking up of the ears. The majority of rachis fragments of free-threshing cereals are removed during threshing by raking and coarse sieving (Hillman 1981, 1984). If the samples do represent either waste from the processing of ears or whole ears they should be dominated by

weed seeds, especially smaller seeds and headed seeds that are removed within the earlier stages (Hillman 1981). That several samples are dominated by smaller and headed weed seeds might then suggest that unprocessed sheaves/ears or waste from sheaves/ears are present in the samples. Such assemblages, especially from whole sheaves, should contain frequent remains of culm nodes from the straw. While culm nodes were relatively common they were not abundant. It is possible however that the bulk of undamaged straw had been removed by hand during threshing and raking and used for thatching and flooring as described by Hillman (1984:Fig. 2) before the waste came to be charred.

Turning to the ecology of the weed species themselves, those that were present show a mixture of soil types. Runch (*Raphanus raphanistrum*) is characteristic of lighter sandier soils, as is plantain (*Plantago lanceolata*), while stinking mayweed (*Anthemis cotula*) is more characteristic of heavier clay soils.

In particular the samples from pit 156 produced seeds from a variety of species with quite different ecological requirements. Many were highly characteristic of lighter soils, runch and plantain, already mentioned, along with corn spurrey (*Spergula arvensis*) and scarlet pimpernel (*Anagallis arvensis*). While these species are more characteristic of drier sandier soils, stinking mayweed and spikerush a species found on wet or seasonally flooded ground were present in the same samples. The sample then indicates the cultivation of dry, sandier soils as well as wetter and clay soils. While such conditions may be found within a single field, it is perhaps more likely given that at least three to four crops are present that each crop was grown within fields with distinctive soil types.

The sample from gully 82 differed from the assemblage in the pit in that grain and rachis fragments of free-threshing wheat prevailed. In comparison to grains of free-threshing wheats, rachis fragments were abundant enough to suggest again the presence of either whole ears or waste from the processing of ears (including some straw waste). However, smaller weed seeds were relatively scarce, and it may be that only ears or waste from ears is present.

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Table 1: The charred plant remains from Westenhanger Castle

Period			IA	MD	MD	MD	MD	IA	BA	MD	PM or MD?	MD	MD	MD		PM	MD	PM	PM	PM	PM
Sample			1	3	5	6	7	8	9	11	12	13	15		18	20	21	22	23	24	
Type			Ditch	Pit	Ditch	Ditch	Ditch	Ditch	Ditch	Ditch	Pit	Gully	Gully		Drain	Ditch	Pit	Pit	Pit	Pit	
Group																					
Sub-group			27	3	32	32	27	35	45	51	57	14	14	17	16	20	49	49	49	49	
Context			5	3	24	24	26	45	46	56	59	0062 & 62 cuts	83	89	98	108	156	156	156	156	
Flot Volume (ml)			10	1	4	5	3	4	4	3	30	2	25	1	1	2	25	40	10	10	
Volume			30	10	30	10	10	10	9	10	10	10	10		8	10	20	50	10	10	
Items per Litre			0.96666 67	0.3	0.067	0.9	0.2	2.3	0.6667	0.2	0.1	0.7	40		0.25	0.2	9.6	6.04	5.6	5.6	
Washover Charcoal			>50%	+	<1%	10-50%	1-10%	1-10%	1-10%	+	>50%	1-10%	>50%		+	+	>50%	10-50%	10-50%	>50%	
Latin name	common name	plant part																			
CEREALS								? Not BA				Oak charcoal +++	Charcoal++					charcoal			
<i>Hordeum vulgare</i> L. sl	barley	-	1					1		1			cf.1						3		
<i>Hordeum vulgare</i> L. sl	barley	R														1					
<i>Secale cereale</i> L.	rye	-	1					cf.2		1			6					43	109	6	27
<i>Secale cereale</i> L.	rye	R	1					1					cf.1					4	5	5	4
<i>Triticum</i> sp. L.	wheat	-							2		1										
<i>Triticum dicoccum</i> (Schübl)	emmer wheat	SF											1								
<i>Triticum spelta</i> L.	emmer/spelt wheat	GB																1			
<i>T. dicoccum/spelta</i>	emmer/spelt wheat	-						cf.1													
<i>T. dicoccum/spelta</i>	emmer/spelt wheat	GB											3					1			
<i>Triticum aestivum/spelta</i> short grain	bread/spelt wheat	-					1						2								



Period			IA MD in Groups	MD	MD	MD	IA	BA	MD	PM or MD?	MD	MD	MD		PM	MD	PM	PM	PM	PM
Sample			1	3	5	6	7	8	9	11	12	13	15		18	20	21	22	23	24
Type			Ditch	Pit	Ditch	Ditch	Ditch	Ditch	Ditch	Ditch	Pit	Gully	Gully		Drain	Ditch	Pit	Pit	Pit	Pit
Group																				
Sub-group			27	3	32	32	27	35	45	51	57	14	14	17	16	20	49	49	49	49
Context			5	3	24	24	26	45	46	56	59	0062 & 62 cuts	83	89	98	108	156	156	156	156
<i>Triticum aestivum</i> L. <i>sl</i>	bread wheat	-	6			3		10					265				10	2		
<i>Triticum</i> cf. <i>aestivum</i> L. <i>sl</i>	bread wheat	R	2			2			1				54				7	2		
Cereal indet. (whole grains)	cereal	-	6			1			1								18		3	4
Cereal fragments Indet. (est. whole grains)	cereal	-	4			3		1					5		1	8				
Cereal	cereal	R	1										13							
Cereal	cereal	RB											2				2	2		
Cereal	cereal	CNB											5				4	4		1
Cereal	cereal	L/BCN																		
Other Cultivated Species																				
<i>Vicia faba</i> var <i>faba</i> L.	broad bean	-											1							
<i>Vicia faba/Pisium sativum</i> Species	pea																			
<i>Ranunculus</i> L. sp. subg <i>Ranunculus</i> arb	buttercup	-													1			1		
<i>Corylus avellana</i> L.	hazel	NS																		
<i>Papaver</i> sp. L.	poppy	-																		1
Chenopodiaceae/Caryophyllaceae	goosefoot/campion	-																1	6	
Chenopodiaceae	goosefoot	-																1		
<i>Chenopodium polyspermum</i> L.	many-seeded goosefoot	-																1		
<i>Chenopodium album</i> L.	fat hen	-																6		
<i>Atriplex</i> sp. L.	oraches	-													1			3	3	

Period			IA MD in Groups	MD	MD	MD	IA	BA	MD	PM or MD?	MD	MD	MD		PM	MD	PM	PM	PM	PM
Sample			1	3	5	6	7	8	9	11	12	13	15		18	20	21	22	23	24
Type			Ditch	Pit	Ditch	Ditch	Ditch	Ditch	Ditch	Ditch	Pit	Gully	Gully		Drain	Ditch	Pit	Pit	Pit	Pit
Group																				
Sub-group			27	3	32	32	27	35	45	51	57	14	14	17	16	20	49	49	49	49
Context			5	3	24	24	26	45	46	56	59	0062 & 62 cuts	83	89	98	108	156	156	156	156
<i>Stellaria media</i> (L.) Vill.	common chickweed	-																		
<i>Stellaria palustris</i> Retz/ <i>graminea</i> L.	marsh stitchwort/ lesser stitchwort	-																		
<i>Spergula arvensis</i> L.	corn spurrey	-																		
<i>Agrostemma githago</i> L.	corncockle	-																		
<i>Persicaria lapathifolia</i> (L.) Gray/ <i>maculosa</i> L.	pale persicaria/re dshank	-																	2 min	
<i>Fallopia convolvulus</i> (L.) A. Löve	black- bindweed	-															1			
<i>Rumex sp.</i> L.	dock	-																	1	1
<i>Rumex acetosella</i> L.	sheep's sorrel	-																	cf.1	
<i>Rumex cf. crispus</i> L.	curled dock	-											1				2		6	
<i>Brassica sp.</i> L.	cabbage	-																	1	
<i>Raphanus raphanistrum</i> L.	wild radish	capsule	1																	
<i>Anagallis cf. arvensis</i> L.	scarlet pimpernel	-																		
<i>Potentilla sp.</i> L.	cinquefoils	-																		
<i>Vicia L./Lathyrus sp.</i> L.	vetch/pea	-						1									12		8	
<i>Trifolium sp.</i> L.	clover	-											2							
<i>Conium maculatum</i> L.	hemlock	-																		
<i>Torilis sp.</i> Adans.	hedge parsley	-																		
<i>Stachys sp.</i> L.	woundwort	-																		

Period			IA	MD	MD	MD	MD	IA	BA	MD	PM or MD?	MD	MD	MD		PM	MD	PM	PM	PM	PM
Sample			1	3	5	6	7	8	9	11	12	13	15		18	20	21	22	23	24	
Type			Ditch	Pit	Ditch	Ditch	Ditch	Ditch	Ditch	Ditch	Pit	Gully	Gully		Drain	Ditch	Pit	Pit	Pit	Pit	
Group																					
Sub-group			27	3	32	32	27	35	45	51	57	14	14	17	16	20	49	49	49	49	
Context			5	3	24	24	26	45	46	56	59	0062 & 62 cuts	83	89	98	108	156	156	156	156	
<i>Prunella vulgaris</i> L.	selfheal	-																			
<i>Plantago lanceolata</i> L.	ribwort plantain	-															9	6	3	3	
<i>Sherardia arvensis</i> L.	field madder	-																cf.2	1		
<i>Galium aparine</i> L.	cleavers	-											cf.2								
Asteraceae ( <i>Anthemis/Tripleurospermum</i> )	chamomile/ mayweed	inner kernal		1								4					2				
<i>Centaurea</i> sp.L.	knapweed	-																			
<i>Lapsana communis</i> L.	nipplewort	-															1				
<i>Lapsana communis</i> L.	nipplewort	seed head																			
<i>Anthemis cotula</i> L.	stinking chamomile	-											17				10	24	14	6	
<i>Anthemis cotula</i> L.	stinking chamomile	seed head																			
<i>Tripleurospermum inodorum</i> (L.) Sch. Bip.	scentless mayweed	-																			
<i>Eleocharis cf. palustris</i> (L.) Roem. & Schult.	common spike-rush	-																			
Poaceae (small caryopsis)	grasses	-																			
Poaceae (mid sized caryopsis)	grasses	-															1				
<i>Lolium</i> L./ <i>Festuca</i> sp. L.	rye/fescues	-											1								
<i>Poa</i> sp. L.	meadow grass	-											1				2				
<i>Poa/Phleum</i> sp. L.	meadow geass/cats'-	-																2			

Period			IA	MD	MD	MD	MD	IA	BA	MD	PM or MD?	MD	MD	MD		PM	MD	PM	PM	PM	PM
Sample			1	3	5	6	7	8	9	11	12	13	15		18	20	21	22	23	24	
Type			Ditch	Pit	Ditch	Ditch	Ditch	Ditch	Ditch	Ditch	Pit	Gully	Gully		Drain	Ditch	Pit	Pit	Pit	Pit	
Group																					
Sub-group			27	3	32	32	27	35	45	51	57	14	14	17	16	20	49	49	49	49	
Context			5	3	24	24	26	45	46	56	59	0062 & 62 cuts	83	89	98	108	156	156	156	156	
	tails																				
<i>Avena</i> sp. L.	oat	-	6	1	2			7	1				19	1			43	112	14	10	
<i>Avena</i> sp. L.	oat	AW							1										1	1	
<i>Avena</i> sp. L.	oat	FBI																			
<i>Avena</i> sp. L.	oat	FBC																			
<i>Avena</i> sp. L.	oat	FSC																	cf.1		
<i>Avena</i> sp. L.	oat	FBW																	cf.1		
<i>Avena</i> L./ <i>Bromus</i> L. sp.	oat/brome	-																	1		
<i>Bromus</i> sp. L.	brome	-											1				1		1		
<i>Hordeum</i> cf. <i>murinum</i> L.	wall barley	-																	1		
Small Seed (<2.5 mm) indet.		-																			
<i>Sclerotia</i> sp. (fungal spore)				1																	
Buds.																			1		
Tuber/fruit type thing																					
Tuber/Panchyma frgs.																					
TOTALS			29	3	2	9	2	23	6	2	1	7	400	1	2	2	192	303	56	56	

Table 1 (continue)

Period			MD	MD	MD	MD	Md?	MD	MD	MD	MD	MD	MD	MD	MD	IA	MD	MD	MD	MD	IA	MD
Sample			25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	42	43	44	45	46
Type			Posthole	Pit	Ditch	Pit	Pit	Ditch	Pit/Oven	Pit/Oven	Pit	Posthole	Pit/Oven	Pit/Oven	Pit/Oven	Gully	Pit	Pit	Gully	Pit	Gully	Ditch

Group																						
Sub-group			9	21	32	21	12	20	21	21	6	7	21	21	21	47	55	55	20	34	46	32
Context			125	156	129	156	138 (137)	145	156	156	152	154	156	156	156	164	157	157	166	197	174	172
Flot Volume (ml)			15	30	3	15	30	25	60	20% examined of 150	8	10	40	120	25	5	<2	<2	6	5	3	<2
Volume			10	50	10	10	40	10	65	40	10	10	70	85	50	2	10	5	10	10	10	10
Items per Litre			0.5	1.74	0.1	30.1	11	0.9	20.2	173.875	0.5	2.1	28	66.7176 47	2.12	3.5	0.5	0.2	1.8	1.2	3.6	0.3
Washover Charcoal			>50%	10- 50%	>50%	>50%	>50%	10- 50%	>50%	>50%	>50%	>50%	10-50%	100% 2mm (50% 1mm)	>50%	>50%	1- 10%	+	>50%	1-10%	+	1- 10%
Latin name	common name	plant part																				
CEREALS																						
<i>Hordeum vulgare</i> <i>L. sl</i>	barley	-		1			1					1	cf.2		1				1		2	
<i>Hordeum vulgare</i> <i>L. sl</i>	barley	R																	1		1	
<i>Secale cereale</i> L.	rye	-		8		63	220+tail		est. 230	226			260	770	8				1			
<i>Secale cereale</i> L.	rye	R		1		2	4(2 joined)		24(4 pairs)	23(2 in ear)			10	est. 96	3				2			
<i>Triticum</i> sp. L.	wheat	-						1				2										
<i>Triticum dicoccum</i> (Schübl)	emmer wheat	SF																				
<i>Triticum spelta</i> L.	emmer/spelt wheat	GB																				1
<i>T. dicoccum/spelta</i>	emmer/spelt wheat	-																				
<i>T. dicoccum/spelta</i>	emmer/spelt wheat	GB																				
<i>Triticum aestivum/spelta</i> short grain	bread/spelt wheat	-							76													
<i>Triticum aestivum</i> <i>L. sl</i>	bread wheat	-		10		5	4	6	50		1		19	155	5	cf.1			2		13	1
<i>Triticum</i> cf. <i>aestivum</i> L. <i>sl</i>	bread wheat	R		2			1 pair		1	2				est. 10	2	cf.1					1	
Cereal indet.	cereal	-			1				30	50		7	50		4	2		1		5	10	

Period			MD	MD	MD	MD	Md?	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD
Sample			25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	42	43	44	45	46
Type			Posthole	Pit	Ditch	Pit	Pit	Ditch	Pit/Oven	Pit/Oven	Pit	Posthole	Pit/Oven	Pit/Oven	Pit/Oven	Gully	Pit	Pit	Gully	Pit	Gully	Ditch
Group																						
Sub-group			9	21	32	21	12	20	21	21	6	7	21	21	21	47	55	55	20	34	46	32
Context			125	156	129	156	138 (137)	145	156	156	152	154	156	156	156	164	157	157	166	197	174	172
(whole grains)																						
Cereal fragments Indet. (est. whole grains)	cereal	-		8		10		2		est.20			15		3		4 frgs		4	2	5	1
Cereal	cereal	R	3																		1	
Cereal	cereal	RB	1	1						1				est. 50								
Cereal	cereal	CNB				1			5	3		1	2	est. 8	1						1	
Cereal	cereal	L/BCN					2															
Other Cultivated Species																						
<i>Vicia faba</i> var <i>faba</i> L.	broad bean	-												2								
<i>Vicia faba/Pisium sativum</i> Species	pea									3												
<i>Ranunculus</i> L. sp. subg <i>Ranunculus</i> arb	buttercup	-							3	1sm+1frg.			2	est. 12								
<i>Corylus avellana</i> L.	hazel	NS							1													
<i>Papaver</i> sp. L.	poppy	-																				
Chenopodiaceae/Caryophyllaceae	goosefoot/campion	-																				
Chenopodiaceae	goosefoot	-				1							1									
<i>Chenopodium polyspermum</i> L.	many-seeded goosefoot	-								cf.3			2		1							
<i>Chenopodium album</i> L.	fat hen	-		1					15	21			16	est. 266								

Period			MD	MD	MD	MD	MD?	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	
Sample			25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	42	43	44	45	46	
Type			Posthole	Pit	Ditch	Pit	Pit	Ditch	Pit/Oven	Pit/Oven	Pit	Posthole	Pit/Oven	Pit/Oven	Pit/Oven	Gully	Pit	Pit	Gully	Pit	Gully	Ditch	
Group																							
Sub-group			9	21	32	21	12	20	21	21	6	7	21	21	21	47	55	55	20	34	46	32	
Context			125	156	129	156	138 (137)	145	156	156	152	154	156	156	156	164	157	157	166	197	174	172	
<i>Atriplex</i> sp. L.	oraches	-							9	11			5	est. 426	3								
<i>Stellaria media</i> (L.) Vill.	common chickweed	-							2	1		cf.1	2										
<i>Stellaria palustris</i> Retz/ <i>graminea</i> L.	marsh stitchwort/lesser stitchwort	-								10			6	est. 20									
<i>Spergula arvensis</i> L.	corn spurrey	-							4					cf.1									
<i>Agrostemma githago</i> L.	corncockle	-							cf.1	1			1	cf.1									
<i>Persicaria lapathifolia</i> (L.) Gray/ <i>maculosa</i> L.	pale persicaria/redshank	-		11+cf.1m										est. 4									
<i>Fallopia convolvulus</i> (L.) Å. Löve	black-bindweed	-		1									2	est. 6									
<i>Rumex</i> sp. L.	dock	-					1		12	4			10	est. 8									
<i>Rumex acetosella</i> L.	sheep's sorrel	-											2										
<i>Rumex</i> cf. <i>crispus</i> L.	curled dock	-		1			24			15			37	est. 104	1				2				
<i>Brassica</i> sp. L.	cabbage	-										cf.1	1	est. 2									
<i>Raphanus raphanistrum</i> L.	wild radish	capsule				1			5	2				9	1				1				
<i>Anagallis</i> cf. <i>arvensis</i> L.	scarlet pimpernel	-								4													
<i>Potentilla</i> sp. L.	cinquefoils	-												cf.1									
<i>Vicia</i> L./ <i>Lathyrus</i> sp. L.	vetch/pea	-		1		12	41		89	68			40	est. 187	14					1			
<i>Trifolium</i> sp. L.	clover	-								1													
<i>Conium</i>	hemlock	-							cf.2														

Period			MD	MD	MD	MD	MD?	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD
Sample			25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	42	43	44	45	46
Type			Posthole	Pit	Ditch	Pit	Pit	Ditch	Pit/Oven	Pit/Oven	Pit	Posthole	Pit/Oven	Pit/Oven	Pit/Oven	Gully	Pit	Pit	Gully	Pit	Gully	Ditch
Group																						
Sub-group			9	21	32	21	12	20	21	21	6	7	21	21	21	47	55	55	20	34	46	32
Context			125	156	129	156	138 (137)	145	156	156	152	154	156	156	156	164	157	157	166	197	174	172
<i>maculatum</i> L.																						
<i>Torilis</i> sp. Adans.	hedge parsley	-											?1									
<i>Stachys</i> sp. L.	woundwort	-							cf. 1					est. 2								
<i>Prunella vulgaris</i> L.	selfheal	-				4			3	1												
<i>Plantago lanceolata</i> L.	ribwort plantain	-		3		10	1		94	132		2	132	est. 548	2				1			
<i>Sherardia arvensis</i> L.	field madder	-																				
<i>Galium aparine</i> L.	cleavers	-							2	1				est. 11	1							
Asteraceae ( <i>Anthemis/Tripleurospermum</i> )	chamomile/mayweed	inner kernal																				1
<i>Centaurea</i> sp.L.	knapweed	-							2	2				est. 6								
<i>Lapsana communis</i> L.	nipplewort	-				4	1		4	11			13	est. 68								
<i>Lapsana communis</i> L.	nipplewort	seed head												est. 4								
<i>Anthemis cotula</i> L.	stinking chamomile	-					16		50	85		1	263	est. 659	5					2		
<i>Anthemis cotula</i> L.	stinking chamomile	seed head		1					4 frgs	3 frgs				est. 4								
<i>Tripleurospermum inodorum</i> (L.) Sch. Bip.	scentless mayweed	-													1							
<i>Eleocharis cf. palustris</i> (L.) Roem. & Schult.	common spike-rush	-								2												
Poaceae (small caryopsis)	grasses	-							2								1					
Poaceae (mid sized caryopsis)	grasses	-				2	1		4	13			18	est. 132								



Period			MD	MD	MD	MD	Md?	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD
Sample			25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	42	43	44	45	46
Type			Posthole	Pit	Ditch	Pit	Pit	Ditch	Pit/Oven	Pit/Oven	Pit	Posthole	Pit/Oven	Pit/Oven	Pit/Oven	Gully	Pit	Pit	Gully	Pit	Gully	Ditch
Group																						
Sub-group			9	21	32	21	12	20	21	21	6	7	21	21	21	47	55	55	20	34	46	32
Context			125	156	129	156	138 (137)	145	156	156	152	154	156	156	156	164	157	157	166	197	174	172
<i>Lolium L./Festuca sp. L.</i>	rye/fescues	-							2													
<i>Poa sp. L.</i>	meadow grass	-												est. 50								
<i>Poa/Phleum sp. L.</i>	meadow geass/cats'-tails	-				1							18									
<i>Avena sp. L.</i>	oat	-	1	47		187	120		est.570	657	2	8	1015	est. 1973	50	1			1	3	2	
<i>Avena sp. L.</i>	oat	AW					1		6	12			5	+								
<i>Avena sp. L.</i>	oat	FBI							3	4												
<i>Avena sp. L.</i>	oat	FBC							cf.5	cf.5			6	est. 54								
<i>Avena sp. L.</i>	oat	FSC							1	cf.6+1 immature			1	est. 22								
<i>Avena sp. L.</i>	oat	FBW																				
<i>Avena L./Bromus L. sp.</i>	oat/brome	-																				
<i>Bromus sp. L.</i>	brome	-																				
<i>Hordeum cf. murinum L.</i>	wall barley	-																				
Small Seed (<2.5 mm) indet.		-							1	1		1	2		1							
<i>Sclerotia sp. (fungal spore)</i>																						
Buds.				2																		
Tuber/fruit type thing			1				1		1 lrg													
Tuber/Panchyma frgs.				3			5															
TOTALS			6	92	1	301	446	9	1313	1391	5	21	1960	5671	106	7	5	1	18	12	36	3