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Archaeological Investigations of the Anglian Water
Cottenham to Landbeach Sewage Pumping Main,
Cambridgeshire

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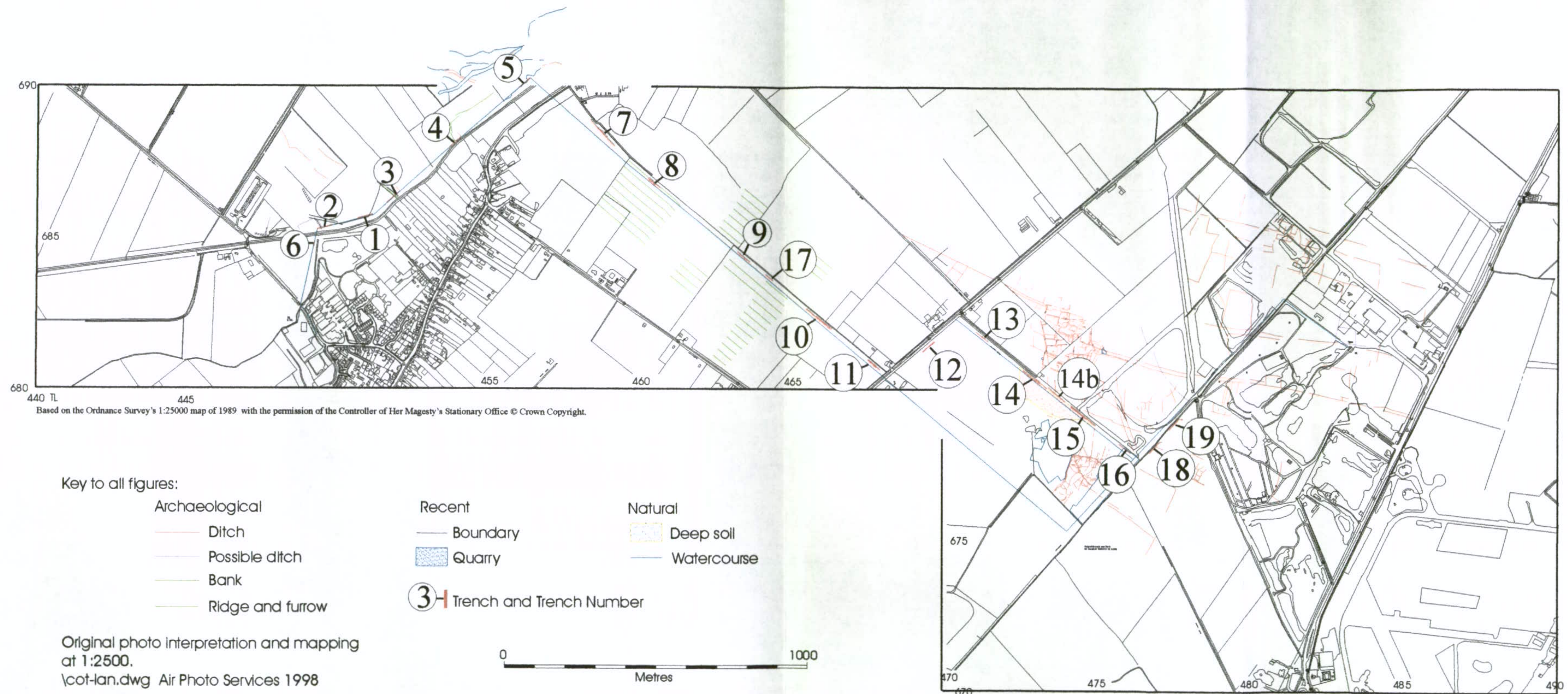


Figure 1: General Location of Trenches along Cottenham to Landbeach pipeline

1. Background

Circumstances of the Project

These works were carried out on behalf of Anglian Water Services Ltd in advance of the construction of a proposed sewage pumping main between Cottenham and Landbeach, Cambridgeshire (Map SEW-00137-005). The aim of the investigation was to determine the nature and extent of any archaeological remains on the route and to preserve by record any such archaeology.

The route was planned in conjunction with the Cambridge Archaeological Office to avoid known concentrations of archaeological features. Prior to the construction of the sewage main between Cottenham and Landbeach, Cambridgeshire, Anglian Water Services Ltd commissioned an archaeological desktop study (Lucas 1999). This study examined:

- Aerial photographic evidence
- County Sites and Monuments Record
- County Record Office archives
- Published Sources (e.g. VCH, Fenland Survey)
- Ordnance and Geological Survey maps

The study identified various significant areas of archaeological activity within the vicinity of the proposed route. The route was divided into four zones and the potential of each assessed. It was then proposed that the route be archaeologically evaluated, immediately followed by any further excavation in areas displaying archaeological potential. The potential of each zone was summarised as:

- Dispersed prehistoric activity (Zones 1 and 4)
- Bronze Age field system - possibly with associated settlement (Zone 4)
- Iron Age and Roman settlement (Zone 3) and transport network (Zones 1-4)
- Medieval waterways (Zones 1 & 4) and field system features (Zones 1 & 2)
- Unknown potential (Zone 2)

Site Description

The route of the pipeline extends for 4.2 km over the two parishes of Cottenham and Landbeach and crosses two major geological zones, Kimmeridge clay to the west and Second Terrace River gravels to the east (Fig. 1).

Previous Work

The earliest archaeological work within the pipeline corridor focused on the eastern end at High Fen and Green End Cow Pastures. Here *ad hoc* recovery of Romano-British material in the wake of intensive gravel quarrying since the 1930s has regularly produced evidence of settlement activity, supported by aerial photographic evidence (Phillips 1970: 202-4; Hall 1996: 127). It was not until the Fenland Survey that the area was systematically investigated through fieldwalking, although this added little to the picture already established from previous work (*ibid.*). The only excavations carried out close to the area lie just to the south of the route at the Cottenham end, with the major discovery of the Saxon and Saxo-Norman precursor to the present day village (Mortimer 1998). During the construction of the Milton to Cottenham sewage pipeline, nothing of significance was found. (Slatcher, pers.comm).

2. THE INVESTIGATION

The Excavation

All the trenches were excavated using a tracked 360° mechanical excavator, with a 2.1m toothless ditching bucket, monitored by an experienced archaeologist.

The archaeology encountered on the route of the pipeline was sparse and so the results of the evaluation phase and the excavation phase are considered together. The results of the investigation are summarised below, trench by trench. They are ordered geographically, starting with the trench closest to Cottenham, proceeding down the route of the pipeline towards Landbeach (see fig. 1). Although all features were planned, if upon investigation they were obviously modern, they have not been discussed in the text. Altogether 141 possible features were investigated.

Zone 1

Trench 6

No archaeology.

Trench 2

No archaeology.

Trench 1
(Figure 2)

Two features encountered.

Ditch F.1 and posthole F.2. The ditch was of a slightly curving v-shaped profile, having a depth of 0.27m. The posthole contained a distinct post-pipe and packing material. No dating evidence was found in either.

Trench 3
(Figure 2)

Two features encountered.

Ditch F.8 and ditch F.9, both oriented NW-SE. Both were shallow ditches of indeterminate date.

Trench 4
(Figure 2)

Two features encountered.

Ditch F.6 was a shallow ditch 0.16m deep, 0.7m wide, aligned NW-SE. Ditch F.7 on the same alignment, contained 18th century clay pipe and is likely to be an old field boundary.

Trench 5
(Figure 2)

Three features encountered.

Scoop F.3, probably natural. Pit F.4, 0.35m in width, no dating evidence. Posthole F.5, no dating evidence.

Zone 2

Trench 7 (Figure 3)

Sixteen features encountered.

Context No.	Feature No.	Feature Type:	Dimensions in Plan: (m)	Depth (m)	Alignment:
036	20	Ditch	1.3	0.45	N-S
038	21	Linear	1.4	0.3	N-S
040	22	Ditch	0.95	0.4	N-S
042	23	Ditch	0.75	0.25	NW-SE
044	24	Ditch	0.3	0.15	NW-SE
050	27	p/h	0.6x0.3	0.35	
051	28	p/h	0.5x0.4	0.4	
052	118	Ditch	0.9	0.35	NE-SW
053	119	Ditch	1.5	0.15	NE-SW
126	59	Ditch	0.9	0.2	E-W
127	60	Pit	1.4x0.8	0.15	N-S
128	61	Ditch	0.55	0.25	NE-SW
129	62	Ditch	0.9	0.3	NE-SW
130	63	Ditch	2.1	0.3	NE-SW
131	64	Ditch	0.6	0.25	N-S

Although some Roman pottery appeared in the topsoil, none of the features were clearly dateable. The natural is clay in this area and the fills were all predominantly clay loams. It is possible that ditches F.64, F.63, F.62, F.61, F.22, F.23, F.118, and F.119 were part of a system of ridge and furrow.

Trench 8 (Figure 3)

Ten features were encountered.

Context No.	Feature No.	F.Type:	Dimensions in Plan: (m)	Depth: (m)	Alignment:
033	18	ditch	0.8	0.2	NE-SW
034	19	ditch	0.83	0.25	NE-SW
045	24b	ditch	0.75	0.23	NE-SW
046	24	rut	0.8	0.23	NE-SW
047	24	rut			NE-SW
048	25	ditch	0.9	0.17	NE-SW
049	26	pit	0.7	0.12	
132	65	scoop	natural		
133	66	scoop			

134	25	ditch	1	0.18	NE-SW
135	67	furrow			

There was no ceramic evidence from any of the features. F.24 had the appearance of a rutted trackway, the presence of coal within the fill however, suggest a post-medieval date for the track. Ditch F.24b was probably dug to drain the track.

Trench 9
(Figure 3)

Four features were encountered, two of which were natural tree bowls, and the other two possible post holes. Posthole [056] was 0.25m diameter and 0.2m deep. Posthole [057] was 0.5m in diameter and 0.25m deep. It was noted that the edges were very indistinct.

Trench 17
(Figure 3)

One large ditch (F.29) 5.55m wide, depth 1.1m was investigated. It contained no dating evidence, however it was sealed only by the topsoil, and the humic nature of the fill suggests a fairly modern date. It is probably a field division backfilled fairly recently.

Trench 10
(Figure 3)

Forty-eight features were investigated.

Context No.	Feature No.	F.Type:	Dimensions in Plan: (m)	Depth: (m)	Alignment:
060		p/h	0.34	0.22	
061		p/h	0.35	0.2	
062		p/h	0.3	0.2	
063		p/h	0.32	0.4	
064		P/h	0.7x0.3	0.15	N-S
071	30	p/h	0.52	0.27	
073	31	pit	0.8	0.37	
075	32	p/h	0.5	0.15	
076	33	pit	0.5	0.2	
077	34	ditch	0.61	0.36	
080	35	linear	Natural		
137	69	p/h	0.45	0.08	
138	70	p/h	0.38	0.11	

139	71	p/h	0.4		
140	72	p/h	0.4	0.05	
141	73	gully	0.4	0.13	N-S
142	74	p/h	0.32	0.27	
143	75	ditch		Modern	
144	76	hearth	1.17x0.67	0.17	
145	68	ditch	0.85	0.35	NW-SE
148	77	pit	0.7	0.12	
149	78	scoop	Natural		
150	79	v-ditch		Modern	
152	80	runnel	0.5	0.07	NW-SE
153	81	runnel	0.45	0.12	
155	82	tree-throw		Natural	
156	82	tree-throw		Natural	
159	83	scoop	0.6	0.12	
160	84	pit	0.9	0.26	
163	85	pit	0.85	0.25	
164	86	p/h	0.4	0.11	
165	87	stake hole	0.2	0.1	
166	88	clay dump	Natural		
167	89	s/h	0.2	0.1	
168	90	?p/h		Very truncated	
169	98	p/h	0.44x0.32	0.11	
170	99	p/h	0.39x0.44	0.04	
171	100	p/h	0.29x0.25	0.1	
172	101	p/h			
173	102	p/h	0.3x0.15	0.18	
176	103	p/h	0.26	0.12	
177	104	p/h	0.36x0.25	0.11	
180	91	p/h	0.2	0.07	
181	92	p/h	0.2	0.15	
182	93	p/h	0.2	0.08	
185	94	ditch	0.35	0.1	
186	95	pit	0.25	0.1	
187	96	p/h	0.25	0.12	
188	97	p/h	0.15	0.12	
189	105	pit		Natural	

This trench contained the highest density of archaeological features, although due to the paucity of finds the interpretation is problematic. Roman pottery was found in ditch F.68. It is a ditch of very sharp vertical sides with a sharp break in to a flat base. The fill was dark grey/brown silty clay. This ditch cuts three pits F.83, F.84 and F.85, it also cuts two stakeholes F.87 and F.90.

One noteworthy feature of this ditch was the way in which the natural was pushed over the fill on the upper (excavated) lip of the ditch. One possible explanation for this phenomenon is that the ditch was originally lined with planks, and the activity at the upper edge, or water erosion caused the natural to

slump over the top of the plank. Once the ditch had silted up and the planks rotted away, the impression was preserved.

There are a series of postholes positioned along the edge of the ditch, their fills indistinguishable from that of the ditch itself. This suggests the posts were contemporary and perhaps employed to hold the planks in place - further postholes may be hidden beneath the ditch fill. Another group of postholes (F.86, F.91, F.92, F.93) set close together to the south of the ditch probably represent a structure. However, there is no obvious pattern to their arrangement to suggest the form the structure would have taken.

Pits F.31 and F.33 appear on the edge of the ditch F.68, it is probable that they were contemporary - their fills being identical to that of the ditch - and in some way relate to the use of this ditch system. Ditch F.94 was also contemporary, with an identical fill, and appears to have run into ditch F.68.

Immediately to the east of this junction a very shallow gully F.73 also ran into the ditch. Features F.80 and F.81 survived as pits sloping into the ditch, the fills being the same. There is a degree of truncation and it could be that these are actually running into the ditch and may be the bases of shallow sloping ditches.

F.76 represents a rudimentary hearth, again lying adjacent to the ditch, and was filled with degraded charcoal, the natural clay around it having been scorched red.

Ditch F.68 ran with the natural gradient of the field and dropped 0.53m from the north-western end of the trench to its terminus, at which point the ditch water must simply have spilled out. The paucity of finds associated with this system complicates interpretation, and it remains enigmatic.

Trench 11
(Figure 4)

Twelve features were encountered.

Context No.	Feature No.	F.Type:	Dimensions in plan: (m)	Depth:(m)	Alignment:
020	17	Gully	0.3-0.47	0.15-0.25	NW-SE
021/191	16	Ditch	1	0.46	NW-SE
023	14	Pit	0.55	0.25	
024	12	Ditch	1.4	0.4	NW-SE
025	13	Pit	0.73	0.16	
027	10	Pit		Natural	
026	11	Pit	0.64	0.2	

193	15	tree-throw	Natural		
196	107	Pit	0.7	0.35	
197	108	tree-bowl	Natural		

Ditch F.16 runs northwest-southeast with the partially segmented and/or truncated gully F.17 running parallel to it to the south, separated by less than 1m. There is also ditch butt (F.12) along the same alignment. No dating evidence was found, but the aerial photographic evidence (Palmer 1999) showed some of the Roman field system in the adjacent field and this is also likely to be a part of that system. The five pits contained no finds to elucidate their date or purpose.

Zone 3

Trench 12 (Figure 4)

Four features were encountered.

Context No.	Feature No.	F.Type:	Dimensions in Plan: (m)	Depth:(m)	Alignment:
084-090/092-095	36	hedgeline	0.23-0.4	0.05-0.2	NE-SW
083	37	ditch	0.58	0.23	NW-SE
091	38	bush drain	0.45	0.2	NW-SE
096	39	gully	0.4	0.12	NE-SW

No date can be attributed to these features, but a hedgeline (F.36) from a previous field boundary was discovered, and another ditch (F.37) that may also be part of a previous field division.

Trench 13 (Figure 4)

Four features were encountered.

Context No.	Feature No.	F.Type:	Dimensions in Plan: (m)	Depth:(m)	Alignment:
097	40	tree throw	natural		
098	41	ditch	0.42	0.1	NE-SW
100	42	ditch	0.75	0.3	NE-SW
101	43	p/h	0.25	0.15	

No date can be attributed to these features. Both ditches may be part of an earlier field division.

Trench 14
(Figure 4)

Fourteen features were encountered.

Context No.	Feature No.	F.Type:	Dimensions in Plan: (m)	Depth:(m)	Alignment:
102	44	ditch butt	0.75	0.3	NE-SW
103	45	p/h	0.18	0.2	
104	46	p/h	0.4	0.08	
117	54	ditch?	natural		
118	55	ditch?			
119	56	ditch?			
120	57	p/h			
121	58	p/h			
122	54	re-cut			
201	109	cremation cut			
203	111	ditch	0.56	0.3	NW-SE
207	112	ditch	>0.50	0.9	NW-SE
214	116	pit	1.6	0.26	
215	117	pit	1	0.65	

All the ditches in this trench were post-medieval. The only feature of note was the Roman cremation of the 2nd century AD (see appendix 1). The cremated bone was within a hand made urn, with a wheel made ancillary cup set to the north of it. Both were buried within an ovoid pit oriented north-south. The upper part of the cremation had been truncated, so unfortunately the rims were not present. Being on the periphery of the Roman settlement this may be part of a larger cremation cemetery within the vicinity.

Trench 14b
(Figure 4)

Context No.	Feature No.	F.Type:	Dimensions in Plan (m):	Depth(m):	Alignment:
202	110	v-ditch	1.03	0.58	NE-SW
210	115	ditch	0.5	0.25	NE-SW
212	114	v-ditch	1.3	0.3	NE-SW

No dateable evidence was recovered, but given the proximity to the Roman settlement and the classic v-shaped profiles of ditches F.110 and F.114, they are likely to be part of the Roman field system.

Trench 15
(Figure 5)

Nine features were encountered.

Context No.	Feature No.	F.Type:	Dimensions in Plan: (m)	Depth:(m)	Alignment:
106		Burrow	natural		
107	47	Scoop	0.28	0.06	
108	48	Pit	1.02	0.4	
109	49	tree throw	natural		
110	50	tree throw			
111	51	Ditch	0.75	0.31	NW-SE (mod)
112	52	Pit	1.17	0.55	mod
116	53	tree throw	natural		
209	113	I/A ditch	1.3	0.6	N-S

Surprisingly there was no sign of the Roman ditches that appeared to be approaching the trench on the aerial photographic plot (Palmer 1999). However, ditch F.113 contained Iron Age pottery and links up well with the aerial photographic evidence, which shows a ditch running from a concentration of features to the south, northwards towards the trench.

Trench 16

No archaeology.

Zone 4

Trench 18
(Figure 5)

Two ditches were encountered. No dating evidence was discovered in either. Their position suggests they may be related to the existing Beaches ditch, or precursors to it.

Trench 19

No archaeology.

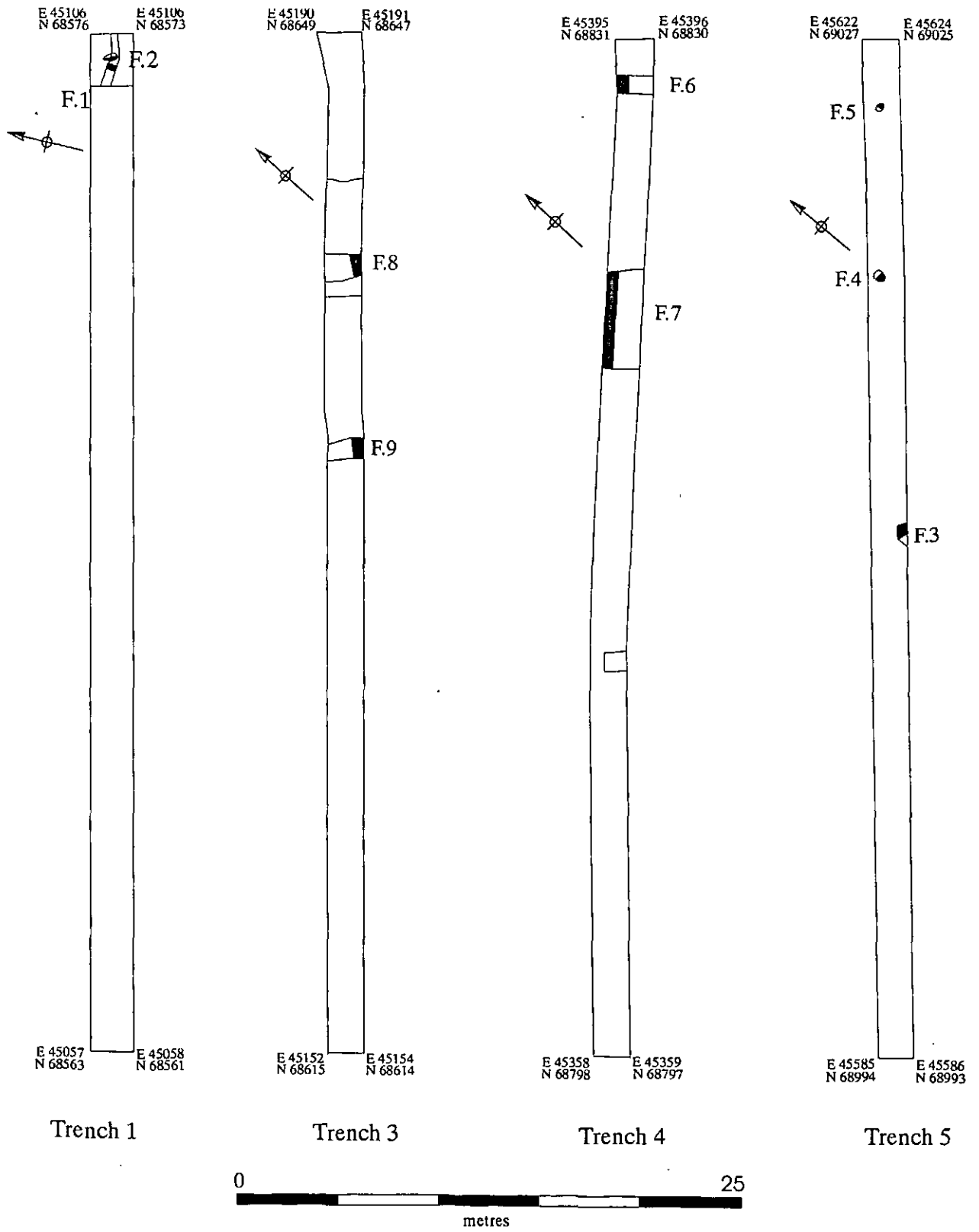
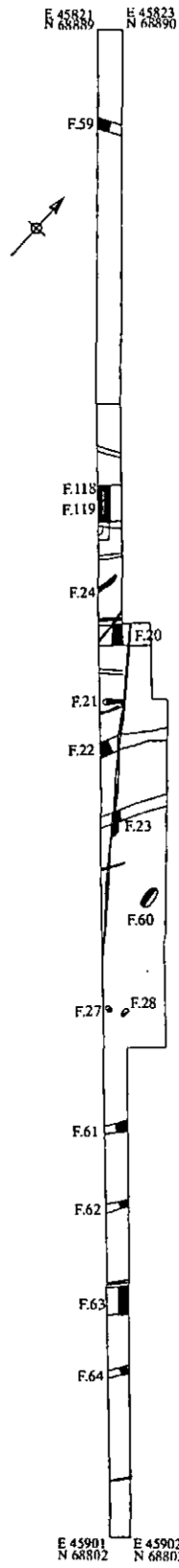
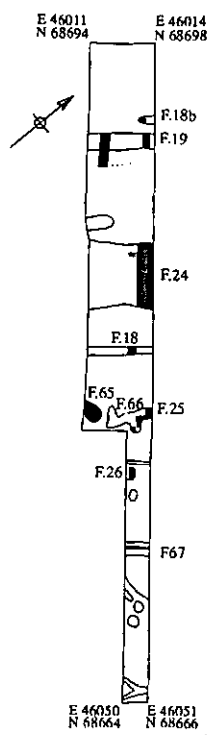


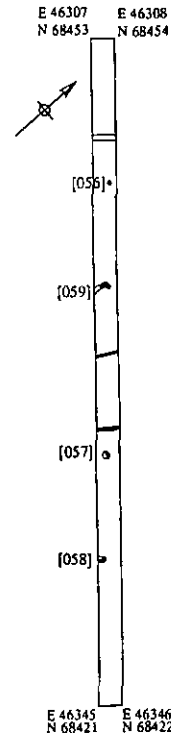
Figure 2



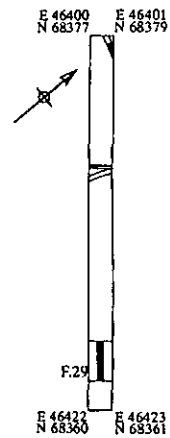
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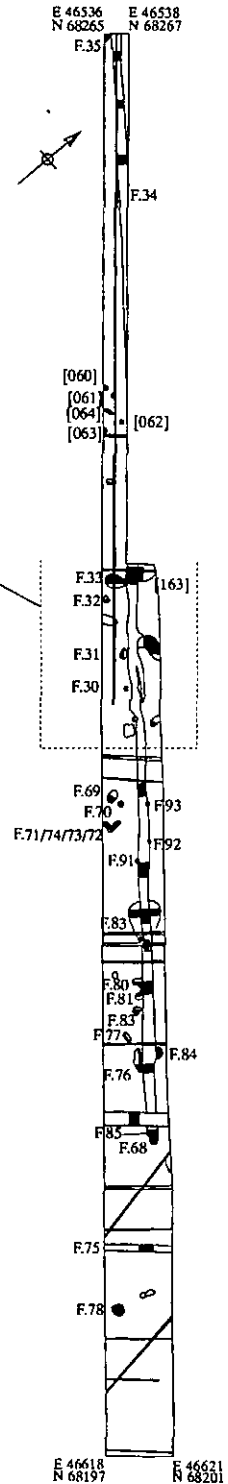
Trench 8



Trench 9



Trench 17



Trench 10

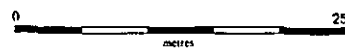
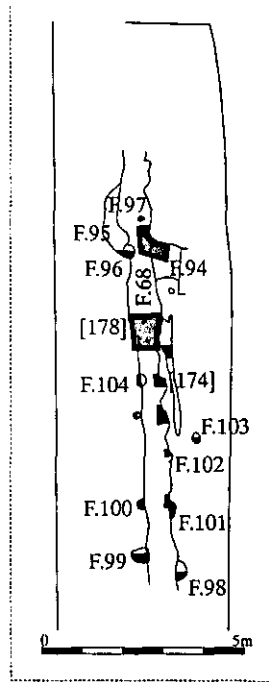
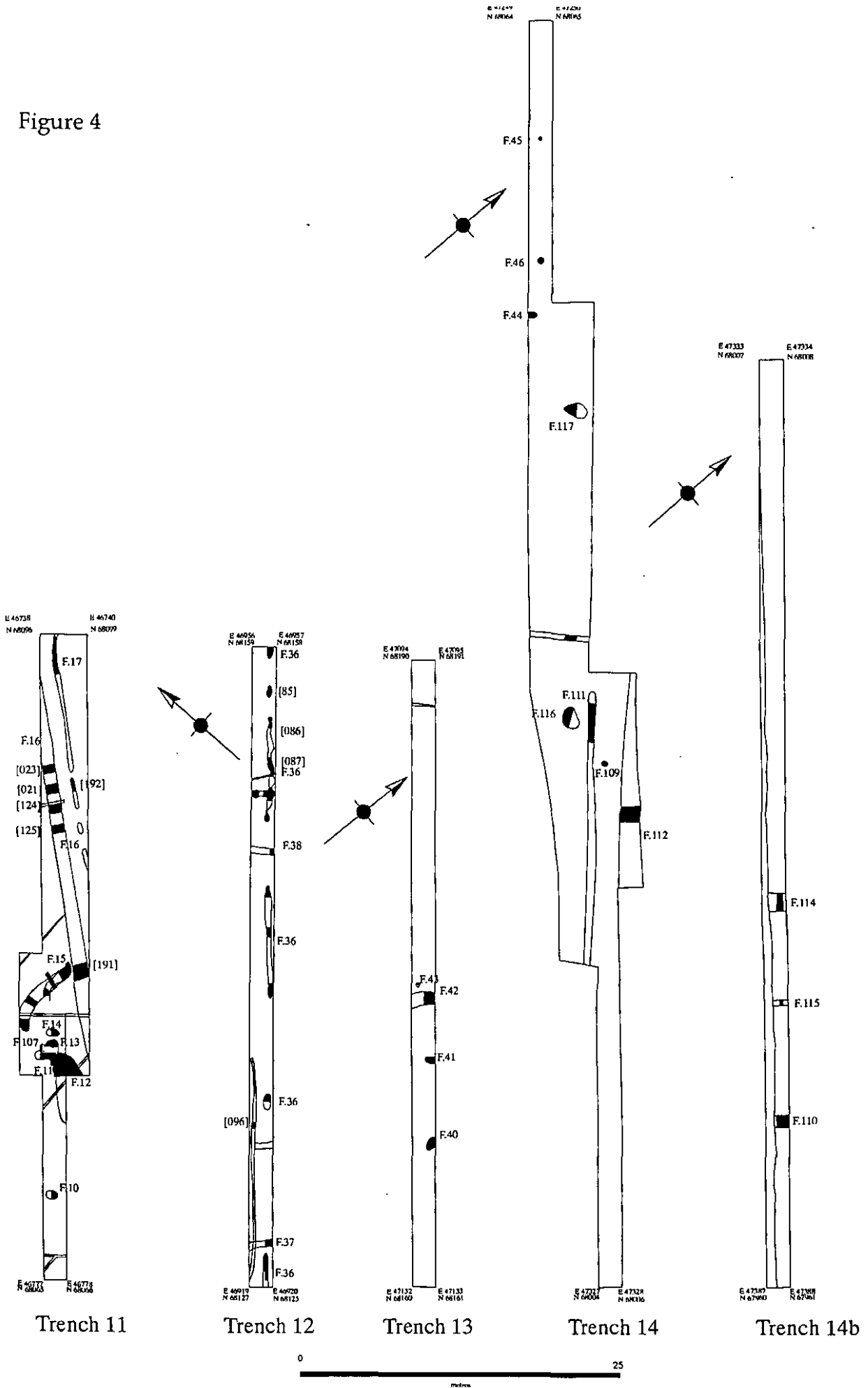
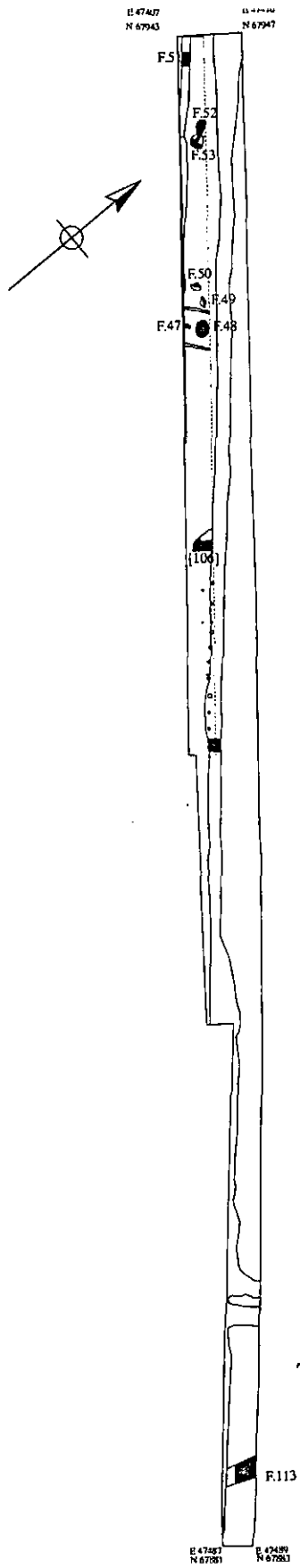


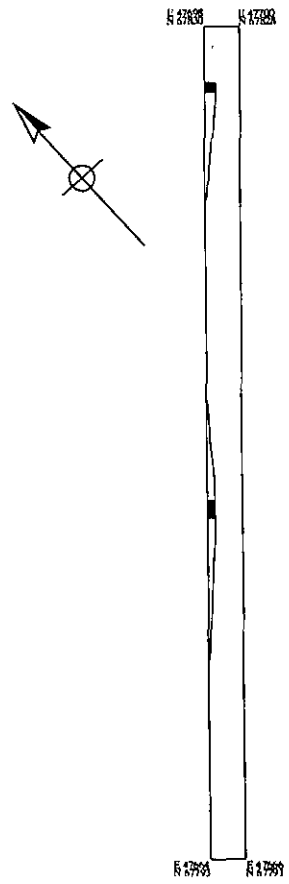
Figure 3

Figure 4





Trench 15



Trench 18

Figure 5



Conclusion

The majority of features encountered appear to be related to field systems and the rural landscape, as one would expect. However, given the proximity of known archaeological concentrations, especially in zone 4, it is surprising how little archaeology was encountered. Obviously, the interpretation of features within a 2m or even 4m trench is problematic as only a tiny fraction of the system can be seen. Coupled with the paucity of finds from the excavated features and the problem is magnified. Therefore, little can be said about many of the features encountered. The field walking undertaken as part of the Fenland project (Hall 132-136, 1996), had good coverage of zones 2, 3 and 4. They found very little in the way of earlier prehistoric evidence. The Iron Age is fairly well represented, but the landscape is dominated by the Roman evidence. The Romano-British ditches excavated in Zones 2 and 3 were previously unknown, but fit the established picture for the Cottenham Fens. The Roman settlement to the north of trench 14, in Cow Fen, is quite clear from its crop marks. The 2nd century cremation (Dodwell, Appendix 1) although found in isolation, may be part of a larger cemetery lying on the periphery of the settlement, as is usual for Roman burial practise. It may also give an indication of the date of the settlement itself, which has not been excavated.

The overall low density and variable quality of the archaeological features lying on the path of the pipeline, demonstrate the results of a successful mitigation strategy on the part of the County Archaeological Office and Anglian Water.

Acknowledgements

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Appendices

Appendix 1: Analysis of the cremated human bone, [216] F109

Natasha Dodwell

Cremated human bone was recovered from a 2nd century Roman vessel found in a shallow pit and accompanied by a small ancillary vessel. Although the urn was slightly damaged during the machining of the site it is also believed to have suffered earlier truncation.

Methodology

The soil from the urn was floated to retrieve environmental information (Appendix 2) and bone >2mm was extracted for examination. This was weighed and analysed while the finer residues were scanned. The age of the individual(s) was assessed from the stage of tooth development (Ubelaker 1989), epiphyseal bone fusion (McMinn and Hutchings 1985; Buikstra and Ubelaker 1994) and more generally by skeletal element size.

Results

A total of 380g of cremated bone was recovered and analysed; all the bone that could be identified was human. The bone fragment size was generally <20mm although some fragments were far larger; the largest bone fragment, a left calcaneus measured 56mm. Nearly all parts of the body including fragments of skull, teeth, limb bone shaft, ribs, and digits were identified. Vertebrae and the epiphyseal ends of long bones were under represented although this may be due to the spongy, trabecular structure of these elements. The majority of fragments were a buff-white colour although several of the bones including a fragment of the parietal, a rib, a tibia shaft and some of the distal phalanges were blue/black in colour.

The stage of dental development suggests that the individual was at least 14 years old (the roots of the 2nd mandibular molar are complete). The size and general robustness of certain skeletal elements such as the skull fragments and the calcaneus suggest that the individual was more adult-sized. The skull sutures are distinct and the wear on the only surviving tooth crown (a maxillary 2nd molar) is minimal which suggests that if the individual did survive into adulthood he/she still died young.

The individual could not be sexed, as the relevant diagnostic elements were not present/have not survived.

No cremated bone was recovered from the ancillary vessel.

Discussion

The cremated material contained within the urn are the remains of a subadult/young adult. The quantity of bone collected from the urn (380g) is far less than that expected from an adult cremation; weights recorded in observations at modern crematoria (McKinley 1993) range between 1000g-2400g. The quantity of bone analysed however is not uncommon archaeologically and could result from only part of the cremated body being interred and/or later truncation/disturbance.

Whilst bone fragmentation can occur during excavation and processing it also results from the tending of and collection from the pyre (McKinley 1994). The size of these bone fragments is within the normal ranges observed (ibid.) and there is nothing to suggest deliberate fragmentation of the bone.

The predominantly buff-white colour of the bones is indicative of high pyre temperatures and full oxidation. Those bones that are blue/black in colour may either have been at a distance from the hottest part of the pyre or have been knocked away from it as it was being tended. Very little soil matrix and only a small (<3g) quantity of charcoal were recovered from the urn suggesting that great care was taken when collecting the bones from the pyre.

Appendix 2: The Environmental Evidence

Chris Stevens and Rachel Ballentyne

Twelve samples were assessed for the potential of charred plant macros and molluscan remains. Only two samples were dateable: F.113, [208], with a possible Iron Age date, and the cremation buried in 2nd century pottery.

Results

Of the twelve samples, four contained no molluscan and few charred plant remains other than some wood charcoal. One from a pit [163]; another from a tree-throw [155], which contained almost no charred plant remains and one from a ditch, F.17, [192].

Of those containing charred remains, four produced cereal remains. Three grains, one of spelt/free-threshing wheat, *Triticum spelta/aestivum* came from F.63, [154]. A further sample from F.75, contained oats, *Avena* sp., though possibly of the wild type, a single wheat grain and a single unidentifiable cereal grain. The cremation sample, F.109 [198] also produced a single cereal grain. Lastly, the sample from the 'v'-shaped ditch, F.110, [202] produced ten glume bases, a spikelet fork, two more oat grains, a grain of barley and three unidentifiable cereal grains.

Few other charred remains were available from the samples, apart from fragments of unidentifiable legume from a runnel, F.80 [152], a single fragment of unidentified nutshell from the cremation F.109 [198] and some grass stems (possibly of cereals) from a ditch F.12 [24] and the 'v'-shaped ditch F.110, [202].

Only the sample from the 'v' shaped ditch showed any potential for the recovery of further charred plant remains. Glume wheats are present in the region for all periods from the Neolithic to the Medieval period. However, they are only commonly recovered from the later Bronze Age to the later Roman period and would probably indicate a date somewhere around this period. The higher presence of glume bases in comparison to cereal grains would certainly indicate waste from daily - post-storage - processing, which is common on sites. It is tempting to suggest from the absence of any weeds other than possibly oats, *Avena* sp. that the sample represents cleaning of grain stored as semi-clean spikelets. Given the limited evidence, further work would be required to test this assumption.

The hearth sample F.76 [144] produced little evidence for either wood charcoal and/or other charred remains. This indicates that either the feature was

subjected to, but below the area of burning, and/or was subjected to heat, but from heated stones etc. and not from burning wood in fires.

In terms of molluscan remains, four samples produced remains, two in reasonable quantities. The sample from the gully, F.16 [191] produced shells of *Bathyomphalus contortus*, indicative of slow flowing rivers, or possibly brought from further afield into the gully by flood events, if for example, the gully ran close to areas prone to flooding. The sample also produced other water molluscs, such as *Bithynia tentaculata*. The presence of flooding in this, but not other samples - unless the sample should prove to be isolated in the lowest lying area of the trench - may indicate a later, perhaps Medieval date, when flooding in the region was at its height.

The sample from the Iron Age ditch also contained reasonable quantities of *Lymnaea trunculata*. This mollusc is characteristic of intermittent periods of standing water, rather than flooding, and its presence suggests the bottom of the ditch was periodically under water.

The remaining shells were of land molluscs. The ditch F.12 produced two shells one of an open long grassland species, *Vallonia* sp. the other a species of woodland, scrub and shade, *Aegopinella pura/nitidula*. The gully, F.16 also produced many shells of *Vallonia* sp. as well as other open country species, *Vertigo pygmaea*, and *Pupilla muscorum* the latter associated with disturbed soils, rather than grassland soils. The ditch sample, F.113, [208] produced a similar array of molluscs. The samples from the 'v' shaped ditch also produced similar open ground species, as well as some woodland/species more of shaded conditions, such as *Carychium tridentatum*.

(Table of results below)

RESULTS SPREADSHEET: Charred plant remains, and-preserved snails from Cottenham Pipeline (CPL 99).

Sample number			<1>	<2>	<3>	<4>	<5>	<6>	<7>	<8>	<9>	<10>	<11>	<12>
Context			[163]	[155]	[154]	[152]	[144]	[143]	[24]	[191]	[192]	[208]	[202]	[198]
Feature				F.83	F.63	F.80	F.76	F.75	F.12	F.16	F.17	F.113	F.110	F.109
Feature type			pit	tree throw	ditch	runnel	hearth	ditch	ditch	gully	ditch	ditch	v-shaped ditch	cremation
Period												Iron Age		
Processed volume/ litres			10 litres	5 litres	7 litres	5 litres	8 litres	8 litres	8 litres	8 litres	8 litres	15 litres	12 litres	9 litres
Flot volume/ ml.			10 ml	2 ml	5 ml	5 ml	5 ml	20 ml	10 ml	10 ml	4 ml	20 ml	10 ml	60 ml
CHARRED PLANT REMAINS														
GRAIN														
<i>Triticum spelta foestivum</i>	Spelt wheat/ Breadwheat		-	-	1	-	-	-	-	-	-	-	-	-
<i>Triticum sp.</i>	Wheat species		-	-	-	-	-	1	-	-	-	-	-	-
<i>Hordeum sp.</i>	Barley species		-	-	-	-	-	-	-	-	-	-	1	-
<i>Avena sp.</i>	Oat species		-	-	-	-	-	2	-	-	-	-	2	-
Cereal indet.			-	-	2	-	-	1	-	-	-	-	3	1
CHAFF														
indet. glume bases	spelt/emmer glume bases		-	-	-	-	-	-	-	-	-	-	10	-
indet. spikelet fork			-	-	1	-	-	-	-	-	-	-	1	-
OTHER														
Poaceae indet. stem fragments	Grass stems		-	-	-	-	-	-	3	-	-	-	2	-
Tuber indet.			-	-	-	3	-	-	-	-	-	-	-	-
Legume fragment			-	-	-	-	1	-	-	-	-	-	-	-
Charcoal fragments			++	-	++	++	-	++	+	-	+	++	-	++
Nutshell frag. indet.			-	-	-	-	-	-	-	-	-	-	-	1
Charred fruit tissue indeterminate			-	-	-	2	-	-	-	-	-	-	-	2
MOLLUSCAN REMAINS														
ECOLOGY														
<i>Bathymphalus contortus</i>	Twisted Ramshorn	weeds in flowing & still water - flooded areas, rivers	-	-	-	-	-	-	-	+	-	-	-	-
<i>Bithynia tentaculata</i>	Common Bythnia	stagnant and flowing water - pools & ditch edges	-	-	-	-	-	-	-	1	-	-	-	-
<i>Lymnaea c.f. trunculata</i>	Dwarf Pond Snail	shallow water of ditches & streams/pools	-	-	-	-	-	-	-	-	-	++	-	-
Vitrinidae indet.		generally cool, moist habitats (often shady)	-	-	-	-	-	-	-	-	-	-	1	-
<i>Aegopinella pura/nitidula</i>		moist places & deciduous leaf litter - wood /hedges	-	-	-	-	-	-	1	-	-	-	-	-
<i>Carychium tridentatum</i>		damp, shady areas - woods & grassland	-	-	-	-	-	-	-	-	-	-	1	-
<i>Trichia hispida/plebeia/striolata</i>		widespread - though preferring damp, shady places	-	-	-	-	-	-	-	-	-	-	1	-
<i>Cochlicopa lubrica/lubricella</i>	Slippery Moss Snail	shaded and more open habitats	-	-	-	-	-	-	-	1	-	+	3	-
<i>Pupilla muscorum</i>	Moss Snail	dry, exposed areas, particularly grassland	-	-	-	-	-	-	-	+	-	+	1	-
<i>Vallonia sp.</i>	Eccentric Grass Snail	open, dry, calcareous places	-	-	-	-	-	-	-	+++	-	+	4	-
<i>Vertigo pygmaea</i>		dry, open grassy places	-	-	-	-	-	-	1	+	-	-	2	-

KEY:
 '+' small presence
 '++' moderate
 '+++' abundant