

**The Cambridge Centre for Recycling,
Ely Road, Waterbeach:**
Archaeological Evaluation of Graves' Field,
The Undertakers, Webster's Field and The
IWM Park

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Summary

Trench-based evaluation was carried out on four areas in Cottenham and Landbeach parishes, known as Graves' Field, The Undertakers, Webster's Field and the IWM Park, covering a total area of 45 hectares, which would be affected by the proposed Cambridge Centre for Recycling. All the evaluation areas lie at or below 3 metres OD on the fen margin near the confluence of the Cam and the Old West River, an area known to have been densely settled in the Roman period. In The Undertakers, postholes and pits were identified, relating to a small Late Bronze Age settlement located on a slight rise that would have formed a peninsula of dry land extending into the fen. In Graves' Field, a Roman ditch was excavated, possibly the continuation of a droveway visible as a cropmark feature in the adjacent field, associated with two small gullies and re-cut by a modern field ditch. Webster's field, which is bounded on one side by the Car Dyke, contained a Roman double-ditched droveway, three other ditches which are probably also of Roman date, and several undated postholes. In the IWM Park, late 3rd-4th century occupation deposits including a midden and traces of structures were recorded in one corner, overlying earlier Roman ditches, some of which may be associated with a droveway which is visible as a cropmark in the adjacent field. Other ditches, mostly restricted to an area along one edge of the field, were also predominantly late Roman in date, and related to field systems associated with the settlement, with the exception of one ditch which was of Late Bronze Age or Early Iron Age date. A fourth century temple, now lost to quarrying, formerly stood just beyond the edge of the evaluation area: except for a single undated cremation, no associated features were identified within 120 metres of it, suggesting that the area surrounding the temple was deliberately avoided by Roman settlement and cultivation.

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1: INTRODUCTION

Circumstances of the Project

The Cambridge Archaeological Unit was commissioned to carry out an evaluation on behalf of M.Dickerson Ltd., of four areas of land to be affected by proposed sand and gravel extraction and construction of a waste management centre, following a specification produced by the CAU (Gibson 2000) and approved by Andy Thomas of the Cambridgeshire County Archaeological Office. The evaluation consisted of a programme of trial trenching, carried out between 18th September and 26th October 2000.

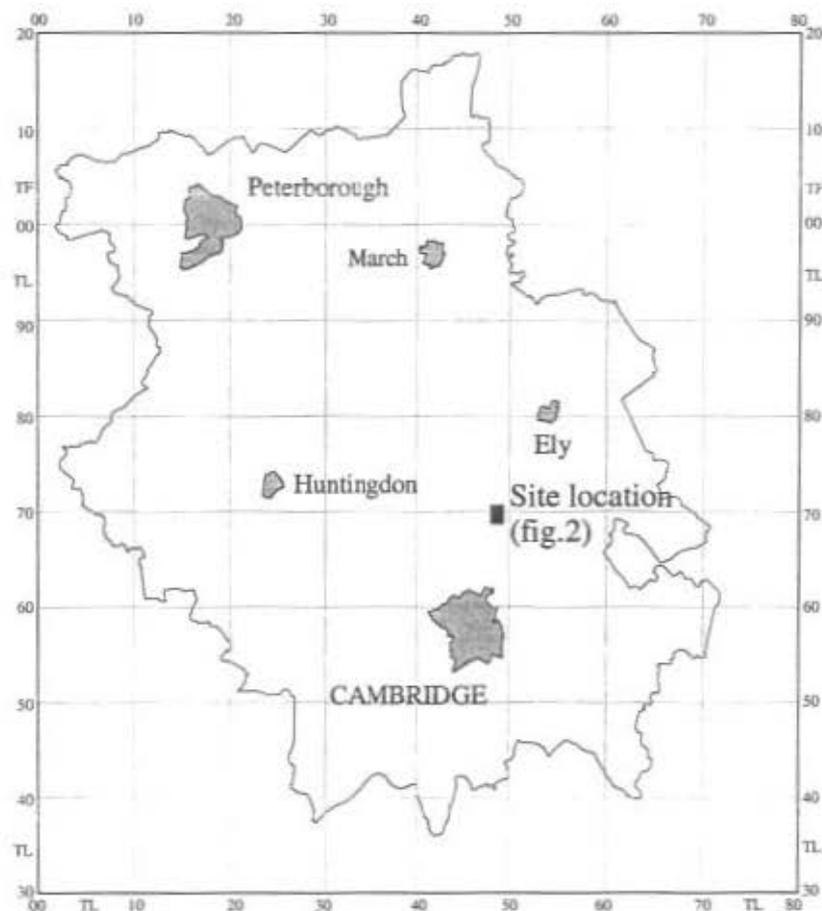


Figure 1: location of the evaluation area

General Description

A total of 45ha was covered in the evaluation, spread over four separate areas which all lie between the A10 and Long Drive, in the north-east of the parishes of Cottenham and Landbeach (see figs. 1 and 2): Graves' Field (5ha., centred on TL485694), The Undertakers (27ha., TL488703), Webster's Field (2ha., TL478688) and the Integrated Waste Management Park (or IWM Park) (11ha., TL488690). All four areas are on 1st and 2nd terrace gravels deposits, which overlie the solid geology of Kimmeridge Clay and Lower Greensand, between one and three metres above sea level. Lower-lying ground further to

in resources for early populations, but were also vulnerable to flooding: the history of this landscape is in large part one of fluctuations in water levels and the encroachment of fens, and natural and artificial alterations to its rivers and watercourses.

Archaeological background

A number of previous publications and reports are particularly relevant to this project in addition to the desktop study commissioned by M.Dickerson Ltd. for this project (Gibson 1999). The CAU have previously carried out excavations between Graves' Field and The Undertakers at Gravel Diggers' Farm (Oswald 1992, Wait 1992, see fig.2) as well as at Bannold Lodge to the east of the A10 (Whittaker 1997) and along the course of the Cottenham - Landbeach pipeline (Hall 1999). Large areas of Cottenham, Landbeach and Waterbeach parishes were fieldwalked in the course of the Fenland Project (Hall 1996). Ravensdale's (1974) detailed study is an invaluable source of information on the medieval and post-medieval landscape.

Prehistoric: Very little evidence exists for Palaeolithic activity in the Fens generally, land surfaces of this date having been mostly destroyed by glacial action or buried deep beneath later sediments (Hall & Coles 1994). None is known from the immediate environs of the evaluation areas.

Traces of Mesolithic and Neolithic settlement in Cottenham, Landbeach and Waterbeach are sparse and little-known, consisting of chance discoveries including Neolithic polished flint and stone axes from Waterbeach Joist Fen. Settlement in these periods seems to have been restricted to certain parts of the Fens, concentrated on areas of light, sandy soils such as the lower valleys of the Wissey and Little Ouse along the eastern Fen edge (Hall 1996).

Evidence for the Bronze Age, also rather slight, consists of burial monuments, lithic scatters and chance finds. An archaeological evaluation near Denny Abbey identified a barrow, most likely Bronze Age, at TL49756856 (Hedges & Symonds 1990), and ring ditches at TL50616973 and TL50187029 may also be the remains of barrows. Cooking sites, consisting of spreads of dark earth and calcined flint and pebbles, a characteristic Bronze Age phenomenon, were identified by the Fenland Survey on Mitchell Hill Common at TL480704, and further south at TL470677. Chance finds include a stone axe-hammer, a palstave and three rapiers, all Bronze Age, from the Waterbeach area; and a palstave found at TL496707. However, extensive fieldwalking carried out for the Fenland project identified no significant lithic scatters associated with these finds or, indeed, anywhere else in the area (Hall 1996). Fieldwalking, trial-trenching and excavation near Gravel Diggers' Farm (Oswald 1992, Wait 1992, see fig.2) similarly produced almost no lithic material from the topsoil, and although two pits were identified towards the north corner of the evaluated area, these contained no dating evidence.

Iron Age & Roman: The West River gravel terraces are conspicuous for the density of cropmarks covering the area, which form a near-continuous landscape of settlements, field systems and droveways. The majority of these features have proved to be Roman where they have been investigated, although many of the settlements also have Iron Age origins or antecedents. Major settlement foci include High Fen and Top Moor, where ditches and Roman finds were noted in the course of quarrying operations, including a fourth century temple just to the north-west of the IWM Park. Trenches along the route of the Cottenham-Landbeach pipeline contained Roman ditches at TL466682 and a Roman cremation on the periphery of the cropmark complex at TL472680, as well as many other undated features (Hall 1999). Around Stony Hills (TL499692) artefact scatters associated with the cropmark complex include material from the Early Iron Age through to late Roman periods. In the same area, trial-trenching evaluation encountered ditches and other features containing pottery of mid-2nd to 4th century date (Hedges & Symonds 1990), and excavations at Bannold Lodge revealed several phases of Roman occupation from the late 1st to early 4th century (Whittaker 1997). Cropmarks on Mitchell Hill Common are associated with Roman artefact scatters (Hall 1996). A scheduled site at Bullocks Haste (TL468700) survives in part as earthworks. The Roman settlements were typically long-lived, with repeated re-cutting of ditches and long pottery sequences indicating a stable and well-established way of life.

Between the settlement foci, systems of fields, enclosures and double-ditched droveways can be traced which do not, however, form a coherent system over areas larger than a few kilometres, implying that landholding and farming was probably organised on the scale of the local settlement or villa estate. Many of these features may have been for the pasturing and control of cattle and sheep in a local economy based primarily on stock-raising, for which the natural environment of the fen edge, with its abundance of rich, seasonally flooded water-meadows, was ideally suited (Phillips 1970).

Significant efforts were made during the Roman period to control the Fenland waterways, improving transport and also preventing flooding. The Car Dyke (Scheduled Ancient Monument 3), which defines the south-west edge of Webster's field, is an artificial channel connecting the Cam near Waterbeach with the Great Ouse at Earith, which at that time flowed north instead of west along a now extinct channel known as the West Water. On the basis of excavations carried out where the Car Dyke passes through the Roman settlement at Bullocks Haste (TL468701) Clark (1949) reaffirmed Stukeley's interpretation of it as a canal, dating its initial construction to the later 1st century AD on the basis of pottery sealed in the upcast bank. Clark's excavations also revealed that it was abandoned, allowed to silt up and at this point slighted and filled in by a droveway running across it in the late 3rd century. More recently the Car Dyke has been sectioned near Waterbeach: the authors of the report (Macaulay & Reynolds 1993) also concluded that it would probably have functioned as a canal, but found no evidence for a construction date earlier than the mid-2nd century, and argued that it may

also have functioned as a catchwater drain, especially in the Late Roman period.

The development of road transport also connected this part of the Fen edge with the rest of the country: for part of its route, between Goose Hall and Chittering, the A10 follows the line of the Roman road Akeman Street, which has been traced running north from Cambridge as far as Littleport (Margary 1967). Sections excavated through it in recent years indicate that it was not part of the conquest-period road network, as 2nd century pottery was found sealed beneath the road (Malim 2000).

Medieval and Post-medieval: The neglect of Roman drainage works, combined with rising water levels, in the context of the social collapse that followed the end of Roman Britain, led to the encroachment of peat fen and the abandonment of almost all Roman fen edge settlements by 450AD. Saxon and medieval settlement developed initially on and around the sites of the present villages of Cottenham and Waterbeach; the area covered by the evaluation was seasonally flooded fen, lying beyond the limit of the medieval arable fields but important for a variety of resources, not least as grazing for large herds of cattle which became an important part of the economy of Cottenham in particular. Denny Abbey, in common with many religious houses, was founded on an inaccessible fen island. The four areas examined in the evaluation would have been used for arable agriculture only following the development of comprehensive schemes for the drainage of the fens in the 18th century.

2: AIMS AND METHODS

The evaluation aimed to establish the date, character and significance of those features which can be traced as cropmarks in two of the areas investigated (IWM Park and Webster's field), and also the extent to which other archaeological remains survive that are not visible by these means. Prehistoric evidence in particular, consisting largely of postholes, pits and artefact scatters not associated with systems of ditches, can generally only be identified by intrusive investigation.

A total area of 9128m² was opened up with a machine using a 1.85m wide ditching bucket, representing at least a 2% sample of each evaluation area. Trenches were laid out on a pattern based on the National Grid to ensure representative coverage of the whole area, and later extended in places to clarify the nature of certain features and to investigate further areas of potential. Trenches were excavated to the natural gravel subsoil, or to the point at which significant archaeology was reached. The spoil heaps from the machining were checked for any artefacts present in the topsoil and, where appropriate, surveyed with a metal-detector.

All trenches were base-planned at 1:50 scale and surveyed in to the National Grid using an EDM, recording all possible features. These were all tested by hand excavation. A great many proved to be the traces of relict watercourses, animal burrowing, tree-root disturbance and the like in the highly variable gravel subsoil: such features, where unambiguous, have not been included in the plans in this report. In many cases, only additional judgmental trenching could prove that features at first identified as ditches or pits were in fact natural anomalies. Obviously modern features such as field drains and disused field boundary ditches were similarly dealt with and not generally excavated.

All archaeological features were hand-excavated to an extent sufficient to establish their date and character, with postholes and other discrete features at least half-sectioned. The written record followed the CAU-modified version of the Museum of London single context recording system (Spence 1990): all stratigraphic elements such as cuts, fills and other deposits, as well as spot finds, were given individual numbers (in square brackets, bolded on introduction in the text). All features were recorded on the baseplans, and drawn in section at 1:10 or 1:20, depending on their size and complexity, and a colour slide photographic record was kept throughout. Features containing significant quantities of burnt or waterlogged organic material were sampled to determine the potential of the environmental evidence.

3: GRAVES' FIELD

Background information

This 5ha. field (fig.3) is bounded to the north-west by Long Drove and to the south-east by an area of former landfill. At present it is under arable cultivation. No archaeology was previously identified in the evaluation area itself, although a double-ditched driveway aligned NW-SE, plotted from aerial photographs in the field on the other side of Long Drove, could conceivably continue into Graves' Field. The next field but one to the north-east is the location of the excavations at Gravel Diggers' Farm (Wait 1992), which identified a single ditch aligned roughly east-west, presumed to date to the Roman period on the basis of its alignment with field systems to the west.

Summary of the results

A broad ditch parallel with the south-west edge of the field could not be dated with any certainty, but judging by the appearance of the fills can be assumed to be modern; however, it re-cut a parallel ditch that was apparently Roman, possibly the continuation of the driveway to the north-west. Roman pottery was also found in one of two slight gullies excavated near the ditch.

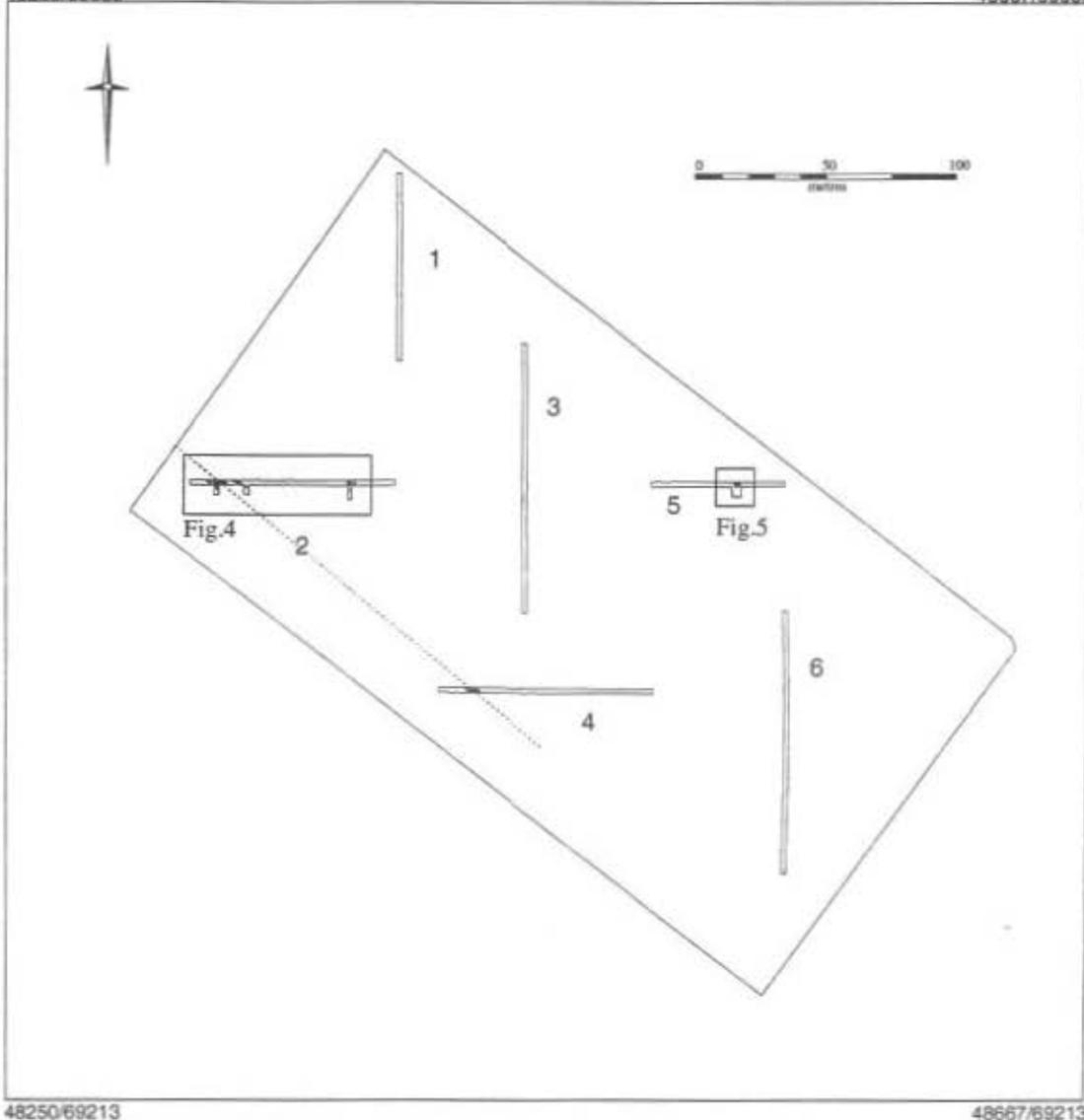


Figure 3: Graves' Field

The only other features of archaeological interest were a broad, silty hollow overlying two possible pits, which may be the result of animals trampling around a small pond, and a small pit near the north-west edge of the field, none of which contained any dating evidence.

Topography and geology

A level-survey, carried out by taking readings with the EDM on the surface of the topsoil at 25 metre intervals along each of the trenches, showed only the slightest variation in the topography of this field, between 2.3 and 2.6m.OD. The topsoil removed by machine was a uniform 0.3m deep, and was very dark and organic, showing its origin as drained fen peat. It directly overlay the natural subsoil, a rather variable sandy gravel with patches of the underlying clay showing in places. Numerous irregular pockets of pale grey

silt were initially baseplanned, but on partial excavation were identified as geological or as the results of natural disturbance.

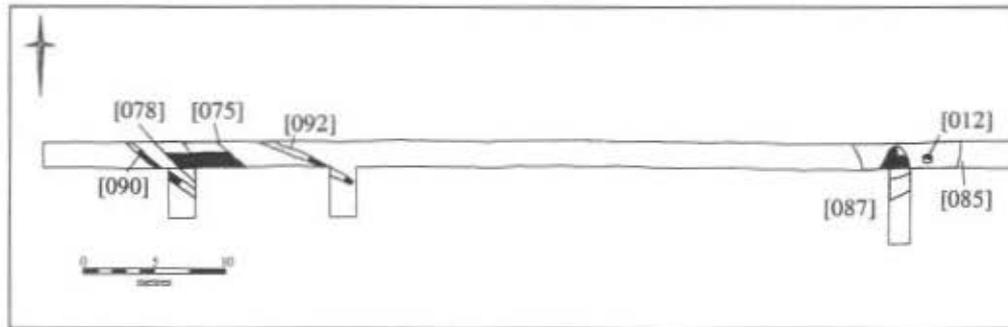


Figure 4: Detail of Trench 2

Excavated features

A broad ditch [075] was recorded in Trenches 2 and 4, aligned parallel with the south-west boundary of the field (figs.4 and 5). Excavation in both places showed it to be a modern field boundary, re-cutting an earlier ditch [078] which is probably Roman, and could be part of a continuation of the double-ditched cropmark feature in the field to the north-west. A substantial driveway could persist as a perceptible earthwork feature long after its disuse, long enough, perhaps, for it to serve as a landmark to guide the laying out of field boundaries and drainage ditches in the post-medieval period.

In Trench 2, the modern re-cut [075] was 2m wide and 0.8m deep, with moderately sloping sides and a flat base. Filling the lower 0.35m of this cut, [074] was a mid-grey soft, clayey organic silt with few inclusions. Overlying this, [073] was a 0.15m thick layer of mid greyish-brown organic silt with fairly frequent sandy gravel inclusions. In the top 0.3m of the feature was a layer of degraded peat, [072]. No finds were recovered from these fills, although a fragment of clay tobacco pipe from [008], the equivalent of [072] as excavated in Trench 4, indicates that its latest fill, at least, is modern. [075] truncated a parallel ditch cut [078] on the north-west side, 0.85m deep. [078] had a primary fill [077] of pale brown silty sand with frequent lenses of grey silt, sand and gravel, up to 0.1m thick. Overlying this, the main fill of this earlier ditch, [076], was of mid-grey sandy silt, again with frequent lenses of sand and gravel. The fills of [078] were markedly more pale and leached than those of the re-cut [075], suggesting a great difference in age and also, perhaps, that the earlier ditch had silted up under drier conditions than the semi-waterlogged conditions implied by the peaty fills of the later re-cut. Two small sherds of Roman coarse ware, recovered from [076], also point to this conclusion. Both ditches were also observed, with an identical sequence of fills, in Trench 4.

Two shallow gullies [091] and [093], one containing Roman pottery, were excavated on either side of the ditch. These may represent fence lines, following different alignments to the ditch and therefore probably unrelated to it, though of similar date.

[091] was a shallow gully to the south-west of [075] and [078], 0.5m wide and 0.3m deep. It contained a fill [090] of dark bluish-grey sandy silt with pale orange-brown

mottling. The trench was extended to reveal this feature continuing to the south-east, where it was partially excavated as [279].

A similar feature [093] on the east side of [075]/[078], followed a slightly different alignment. This gully was 0.5m wide and 0.2m deep, containing a fill [092] very similar to [090]. On extending the trench to the south, it was found to continue for a further 1.5m before terminating.

Two small pits [087] and [012], lying in the base of a broad, silt-filled hollow [085], were excavated towards the west end of Trench 2. As no finds were recovered from any of these contexts, they remain undated and may be relatively modern. One possible interpretation sees the pits as artificially-dug ponds, perhaps for watering animals, with the hollow resulting from prolonged trampling around them.

[087] was a hollow, some 2m wide and 0.3m deep, with moderately or gently sloping edges, the break of slope at the top very gradual. It contained [086], mid grey silt with large patches of redeposited clay and lenses of dark greyish-brown peaty silt. To its east, [012] was a small circular pit 0.65m wide and 0.22m deep, with a fill of dark grey sandy silt containing occasional charcoal flecks. Both features were sealed by [085], a layer of mid brownish-grey sandy silt up to 0.3m thick, covering an 8m length of trench, merging gradually into the natural gravels on either side. This deposit was machined out and recorded in section. The trench was extended on the south side to reveal [085] extending 3m in this direction.

In Trench 5, a feature [089] was excavated which may be a pit, to judge by its regular shape and its fill, which resembled that seen in archaeological features elsewhere in the evaluation. However, this cannot be confirmed as it contained no finds.

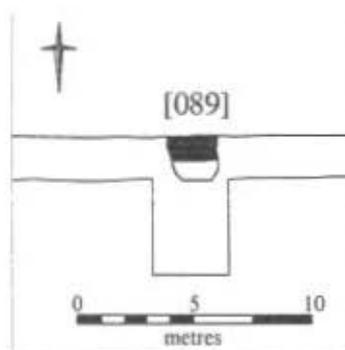


Figure 6: detail of Trench 5

Pit [089] 2.0m wide and 0.65m deep, with moderately steep sides and a fill [088] of grey sandy/gravelly silt.

Unstratified material

No artefacts were found on inspecting the spoil heaps. However, a large flint blade was found by chance near Trench 6, tentatively dated to ca.10,000BP (Conneller, appendices).

Modern features

In addition to modern land drains, the field was crossed by a system of bush drains, spaced 12m apart on a NE-SW alignment. As the excavations at Gravel Diggers' Farm (Wait 1992) demonstrated, these features were a late 18th and early 19th century precursor to the use of ceramic land drains, consisting of ditches dug into the subsoil which were filled with small branches and foliage before being covered over.

One such bush drain was excavated in Trench 6: [002] (not shown in plan) was 1.1m wide, 0.4m deep, and contained a very dark brown organic fill, from which a single fragment of clay tobacco pipe was recovered.

Discussion

The Roman features identified in Graves' field, representing a droveway or field boundary and fence lines, were undoubtedly peripheral to any concentrations of settlement, probably located in a landscape of fen-edge meadows and pastures. In common with many of the surrounding cropmark features, they may have been principally for the control of livestock.

4: THE UNDERTAKERS

Background information

The area evaluated comprises three fields and part of a fourth, covering a total of 27ha, all under arable cultivation at present, bounded on the west side by Long Drove and on the south by a farm track. The name given to this part of Cottenham parish (in common with other areas such as The Lots) refers to the apportionment of land following its reclamation from the fen in the 18th century, the undertakers in question being those individuals responsible for the drainage works.

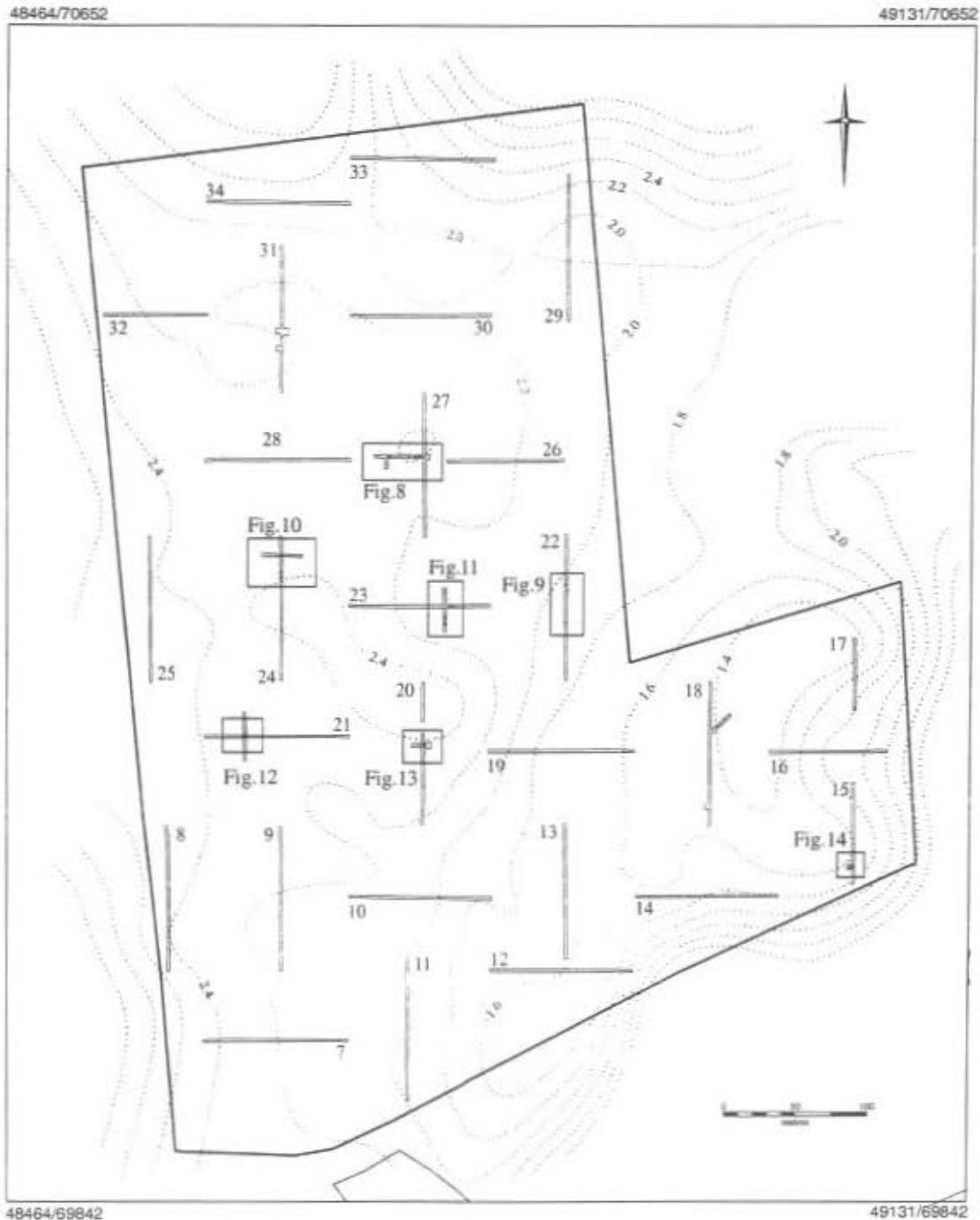
No cropmark features have been plotted in The Undertakers, suggesting that it probably lay beyond the limits of Roman settlement, being too wet and low-lying. Around 100m to the west, a double-ditched cropmark feature forms the eastern boundary of a system of droveways and field boundaries, and may well have functioned as some sort of flood defence barrier in Roman times. Further cropmarks covering a small area to the east may also be Roman. The greatest potential of the evaluation area, considering the available information, appeared to be for prehistoric periods when drier conditions prevailed, allowing settlement lower down on the fen edge.

Summary of the results

The distribution of archaeology across The Undertakers reflects its topography: only Trenches 20, 21, 23, 24 and 27, which lie on a slight rise on the west side of the field, contained any definite archaeological features. These comprised six postholes and between three and six pits, two of them

deep enough to be considered as possible wells. A number of other, less convincing, features were also recorded, but when the trenches were extended to investigate these more fully, most proved to be the result of natural disturbance. Three of the features contained sherds of Late Bronze Age pottery, while the others, though formally undated, can be provisionally associated.

Figure 7: The Undertakers



Topography and geology

A level-survey was carried out, following the same method used in Graves' Field, the results of which are plotted as contours in figure 7: the variation in height is slight, though potentially significant in a fen edge context, from 1.4m to 2.5m.OD, with an area of low ground to the south-east, and perceptibly higher ground to the west, near Long Drove. The topsoil reached a consistent depth of around 0.3m, directly overlying natural sand and gravel with no significant buried soil horizons, except in parts of the south-east corner where deposits of peat were found, filling in broad hollows and channels in the underlying gravel. The topsoil covering areas to the south and east was very dark, organic and peat-derived, in contrast to the more mineral soil covering the central-western rise.

Trench 27

Two postholes [115] and [117] of Late Bronze Age date were excavated in Trench 27 (fig.8). The trench was subsequently extended on either side of these features to determine the full extent of their distribution, revealing an additional two postholes [401] and [403], the edge of a large pit [402] and the terminus of a linear feature [404].

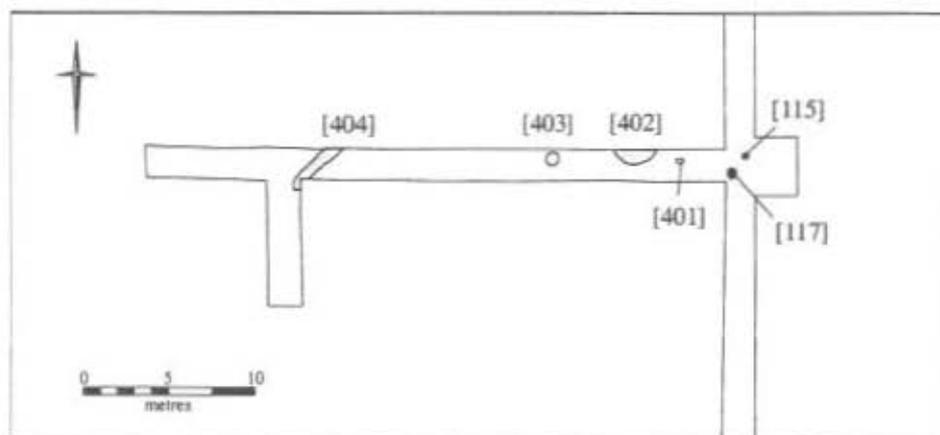


Figure 8: Detail of Trench 27

[115] was 0.5m in diameter, and 0.45m deep, with vertical sides, and its fill [116] contained a well-defined post-pipe of soft mid/dark grey silt, 0.37m in diameter, surrounded by post-packing consisting of orange-grey silty sand and gravel. Two sherds of Late Bronze Age pot came from this fill. 1.5m away, another posthole [117] with fill [118] was almost identical.

Two more similar postholes, [401] and [403] were found respectively 3m and 11m away to the west, and between them the edge of a large feature [402] with a mid-pale grey silt fill, probably a large pit, was partially revealed in the north side of the trench. Further west, [404] was a possible linear feature orientated NE-SW, 0.7m wide, with a fill similar to [402], extending 3m to the SW before terminating.

Trench 23

100m to the south of [115] and [117], another possible posthole [114] was excavated in Trench 23 (fig.9). Nearby were two shallow pits or hollows [110] and [112] which were probably not deliberately cut features; one of which, however, contained fragments of daub, possibly derived from nearby structures. An extension added to the south of these features revealed a third posthole [405] and three more hollows [406], [407] and [408] comparable to the two previously identified. Deep deposits of peat towards the end of the southern extension marked the edge of one of the areas of waterlogged fen that would have surrounded the Bronze Age settlement.

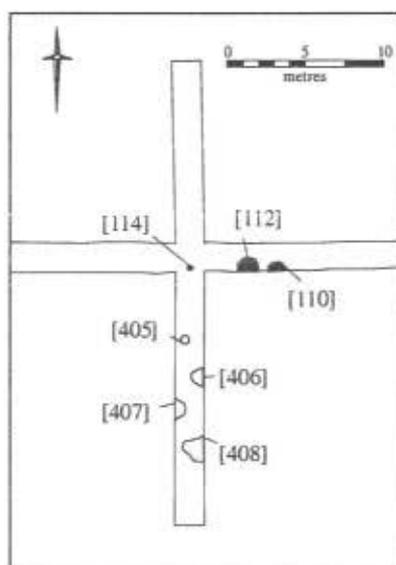


Figure 9: Detail of Trench 23

[114] measured 0.3m in diameter and 0.2m deep, with steep, regular sides, containing a fill [113] of pale grey silt, suggesting that if it was indeed a posthole, the post was removed rather than left to decay *in situ*.

[110] and [112] were both between 1.1m and 1.2m wide and less than 0.15m deep, circular or oval in shape, both partially hidden beneath the south baulk of the trench. [109] and [111], the respective fills of [110] and [112], both consisted of mid-dark grey clayey silt containing a high proportion of gravel. [111] contained fragments of daub.

[405], 5m to the south of [114], was 0.6m in diameter with a clearly visible post-pipe of dark grey silt surrounded by paler, gravelly backfill.

Towards the south end of the extension, the soil profile became deeper, with a layer of degraded peat up to 0.2m thick between the topsoil and the natural gravel. Three amorphous hollows similar to [110] and [112], [406], [407] and [408], were recorded in this part of the trench. All of these were between 1 and 1.5m wide, and partial excavation showed them to be less than 0.2m deep, with dark grey silty/clayey gravels similar to [109] and [111].

Trench 24

A pit [101] containing Bronze Age material was excavated in this trench. Two other possible pits [125] and [160] were excavated, with similar fills to the Bronze Age feature, but were undated. Additional trenches were machined back adjacent to [101], for 13m to the west and 15m to the east, but no more features were found.

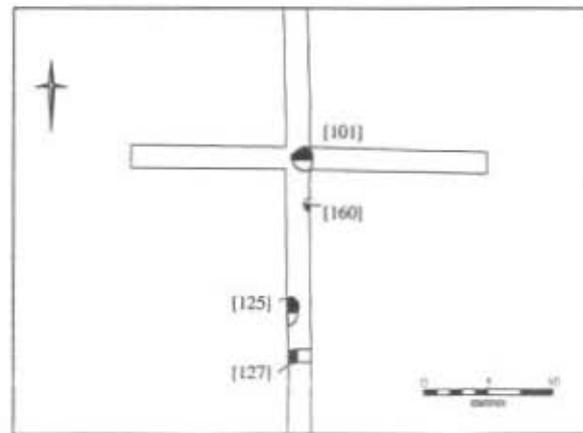


Figure 10: Detail of Trench 24

[101] was 1.8m wide and 0.55m deep, with moderately sloping sides and a rounded base. The base and sides contained [119], a pale greyish-brown silty sand, which merged gradually into an upper fill [100] of pale grey sandy silt, filling the top 0.25m of the cut. Both these deposits can be attributed to natural silting processes, and contained fragments of Late Bronze Age pot, worked flint and animal bone.

[160] was at least 1.0m wide, though it was only partially exposed in the trench and one side was truncated by a field drain, and up to 0.2m deep, with a rather irregular, stepped profile. Its fill, [159], was similar to [119].

[125] was also only partially exposed, was 2.0m wide and 0.35m deep, with gently sloping edges, and contained a lower fill [158] similar to [119], 0.1m thick, and an upper fill [124] which resembled [100] and contained fragments of animal bone which make an archaeological interpretation for this feature likely though not certain.

[127] with fill [126] was an ill-defined patch of very pale silt, less than 0.1m deep, which is unlikely to represent a deliberately cut feature, but which did contain a single piece of worked flint.

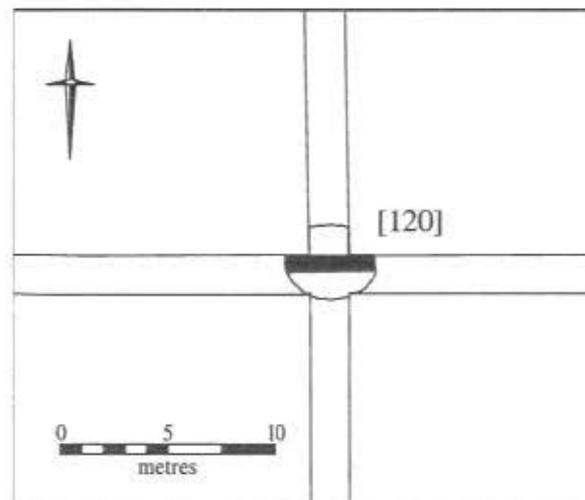
Trench 21

The only feature in this trench was a large pit [120] containing Late Bronze Age pottery, with waterlogged deposits in the base, and a dump of charcoal in its upper fill. It is probably deep enough to have functioned as a well, and may be compared with a series of such Bronze Age bucket-wells excavated near Eye (McFadyen 2000), which were repeatedly excavated into the base of a large hollow and lined with wattling.

Following its abandonment, the area nearby was still occupied, and domestic refuse consisting of rakings from a hearth, broken pottery and animal bones

was tipped into the silted-up hollow. Trenches subsequently extended for 16m to north and south of the pit enabled its edges to be defined, but failed to identify any associated features.

Figure 11: Detail of Trench 21



The cut of the pit or well [120] was 3.5m x 4.5m wide on the surface and 1.35m deep (figs.11 and 12). Its edges sloped moderately to a depth of 0.65m before dropping vertically to the base. The lower part of the feature contained [136], a partially waterlogged deposit of alternating layers of dark brown, peaty organic material, bluish-grey clayey silt and clean sand, containing occasional fragments of waterlogged wood. Only half of the area of this context exposed in the section was excavated, to minimise disturbance of the deposit, and for safety reasons the lowest 0.2m of the feature was not excavated but the full depth determined with an auger. Above [136], [123] was a 0.2m thick layer of silty sand and gravel, dark orange in colour and heavily iron-panned. Above [123] was a lens of charcoal [122], 30mm thick at the most, and thickest on the east side, although flecks and larger fragments of charcoal were spread somewhat into the underlying and overlying deposits. Sealing this layer, and filling the upper 0.5m of the feature, [121] was a pale orange-grey sandy silt, with occasional charcoal flecks and small stones. Late Bronze Age pot and animal bone were recovered from [122] and [136].

Trench 20

Another pit [084] excavated in this trench may also have functioned as a well, though it was shallower than [120] (fig.13). A Late Bronze Age date may be inferred from its similarity to the feature in Trench 21, and from environmental evidence showing that it silted up under dryland, rather than fen, conditions (Ballantyne, appendices). Additional trenches were extended for 15m east and west of the pit, but failed to locate any associated features.

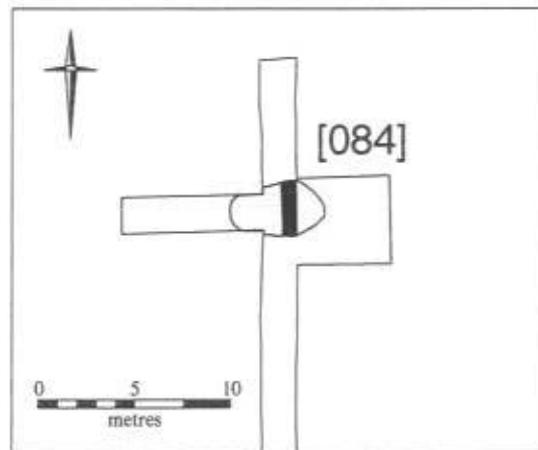


Figure 14: Detail of Trench 20

[084] was 4.5 x 2.7m wide, and 1.15m deep, with moderately sloping sides masked by thick layers of gravel weathered from the edges. The lowest fill, [105], was a partially waterlogged dark grey clayey silt. Overlying this, [104] consisted of orange-grey silty gravel, principally derived from weathering, near the edges, merging gradually into dark grey silt towards the centre. The top 0.5m of the feature contained [083], a mid-pale grey sandy silt with occasional small stones. These deposits all reflect natural silting processes.

Trench 22

Two small features [152] and [154], possibly pits, were excavated in Trench 22 (fig.15). As neither contained any finds, it is difficult to say whether they are of archaeological significance.

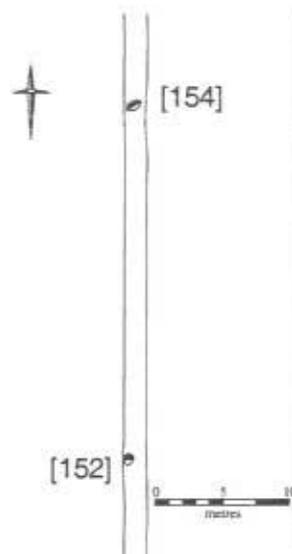


Figure 15: Detail of Trench 22

[152] was circular, 0.9m wide and 0.15m deep; [154] was an elongated oval, 1 x 0.5m wide and 0.15m deep; both were gently rounded in profile, and their respective fills, [151] and [153], both consisted of mid brownish-grey sandy silt with occasional small stones and flecks of charcoal.

Palaeochannels, peat deposits and natural features

With the exception of Trench 20, the southern field was devoid of archaeological evidence. There are indications that the low-lying eastern half of this area, in particular, was subject to the encroachment of peat fen while other parts remained relatively dry. The O.S. geological map shows a finger of peat extending towards the south-east corner of the evaluation area from the Cam valley. Several broad hollows or channels, waterlogged and filled with peat, were machined out in the trenches, particularly in parts of Trenches 12 and 13, the west end of Trench 14, the west end of Trench 16, and the southward extension of Trench 23. The northern part of Trench 18 contained a much deeper deposit containing dark grey waterborne silts, covering an area 30m across, identifiable as a palaeochannel. A trench subsequently extended to the north-east of Trench 18 was excavated through the palaeochannel deposits to a depth of 2.0m but did not reach the base. Wood fragments, but no traces of human activity, were identified in the waterlogged silts machined out of it. This palaeochannel was not found in any of the other trenches, and the area appears to have been characterized by many small channels and pools.

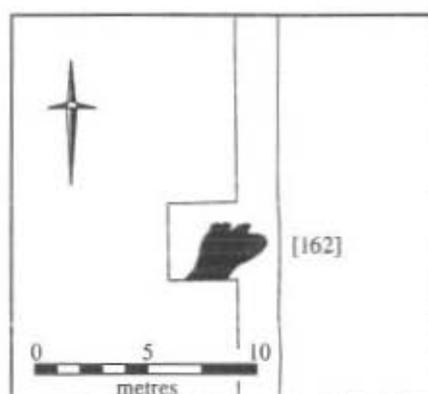


Figure 16: Detail of Trench 15

[162] in Trench 15 (fig.16) was an irregular hollow 3m wide, continuing beyond the west baulk of the trench, up to 0.5m deep. The lower part of the fill consisted of very dark brown silt containing charcoal and fragments of animal bones, some of them burnt, with lenses of orange silt produced by burning. The upper 0.2m of the feature was filled with peat. The very irregular and ill-defined edges of the feature, which undercut the natural in many places, indicated that it was probably a natural feature, perhaps an area of tree root disturbance. Many comparable irregular natural anomalies containing peaty fills were observed in the southeast part of The Undertakers, and the fire and the accumulation of animal bones need not be attributed to human activity. Evidence for fires was also seen in the west end of Trench 14, where the peat horizon underlying the topsoil contained a dense layer of orange and dark grey ashy silt and charred organic material.

Discussion

The available evidence suggests a small settlement, established on a low rise forming an island or peninsula in the Bronze Age fen, located to take full advantage of the opportunities for pasturing animals, fishing, fowling and exploiting other wild resources presented by the fen edge. Macrobotanical evidence from the two deep pit/well features indicated a predominance of species preferring open, disturbed ground, in a dryland rather than fen environment (Ballantyne, appendices). Although the evidence is sparse, the presence of postholes does suggest that the settlement was permanent enough to involve the construction of several buildings. As the fen became wetter in the Iron Age, this rise would have been inundated and have become uninhabitable.

5: WEBSTER'S FIELD

Background information

The area evaluated (see fig.17) is a 5ha. field, currently under pasture, bounded on the north-west by Long Drove. The Car Dyke runs along the south-west edge of the field, cutting across the axis of a field system mapped from aerial photographs of cropmarks, part of which lies within the evaluation area. Since any field systems post-dating such a substantial feature as the Car Dyke might be expected to respect and incorporate it as a boundary (as do the medieval and postmedieval fields, by and large), a 1st century AD or earlier origin for these cropmark features may be supposed. The cropmarks within the field consist of a double linear feature, probably a droveway, with a WNW-ESE alignment, and two other linear features extending at right angles from the droveway. To avoid disturbance to the Car Dyke, a Scheduled Ancient Monument, a stand-off of at least 25m was left between it and the evaluation trenches.

Summary of the results

The cropmark features defining the droveway were each found to consist of two ditches, representing two phases of construction, with the inner pair of ditches post-dating the outer. Two other ditches near the WNW end of the droveway and orientated at right angles to it appear to be part of the same field system, and may define another droveway. A third ditch further to the west follows a different alignment. Other features were identified more or less tentatively as four postholes and two pits. Very few finds were recovered from any of the features, sufficient to assign them a Roman date, but confirming the impression given by the general pattern of the cropmarks, that this was an area of fields located at some distance from the main foci of settlement. The cropmark plot shows another linear feature, extending SSW from near the ESE end of the droveway and turning to the ESE to describe three sides of a small rectilinear enclosure. Although Trench 35 crossed this

part of the field, nothing corresponding to the cropmark could be seen. Modern disturbances such as vehicle tracks can sometimes be mistaken for archaeological cropmarks, and this feature may be one such case.

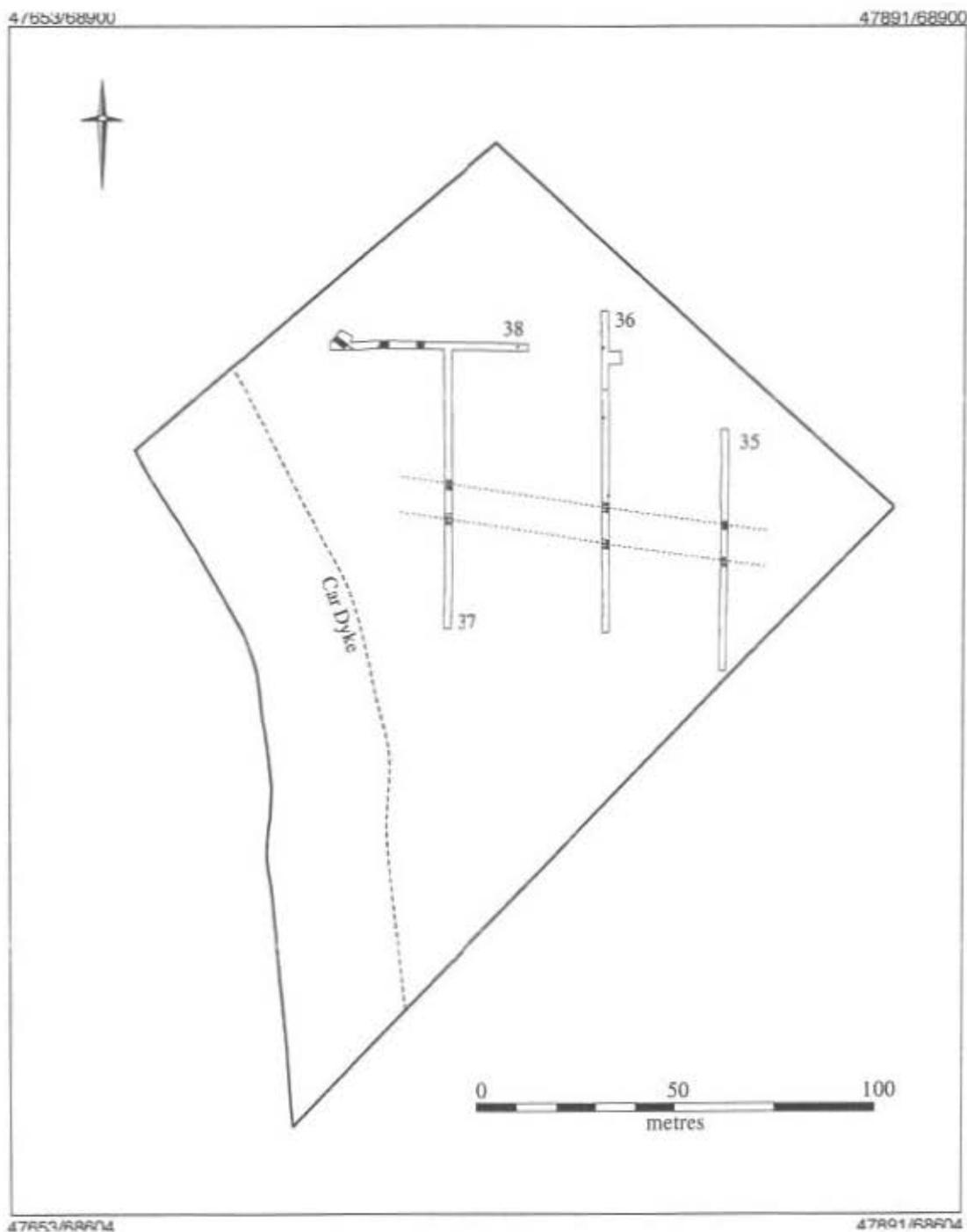


Figure 17: Webster's Field

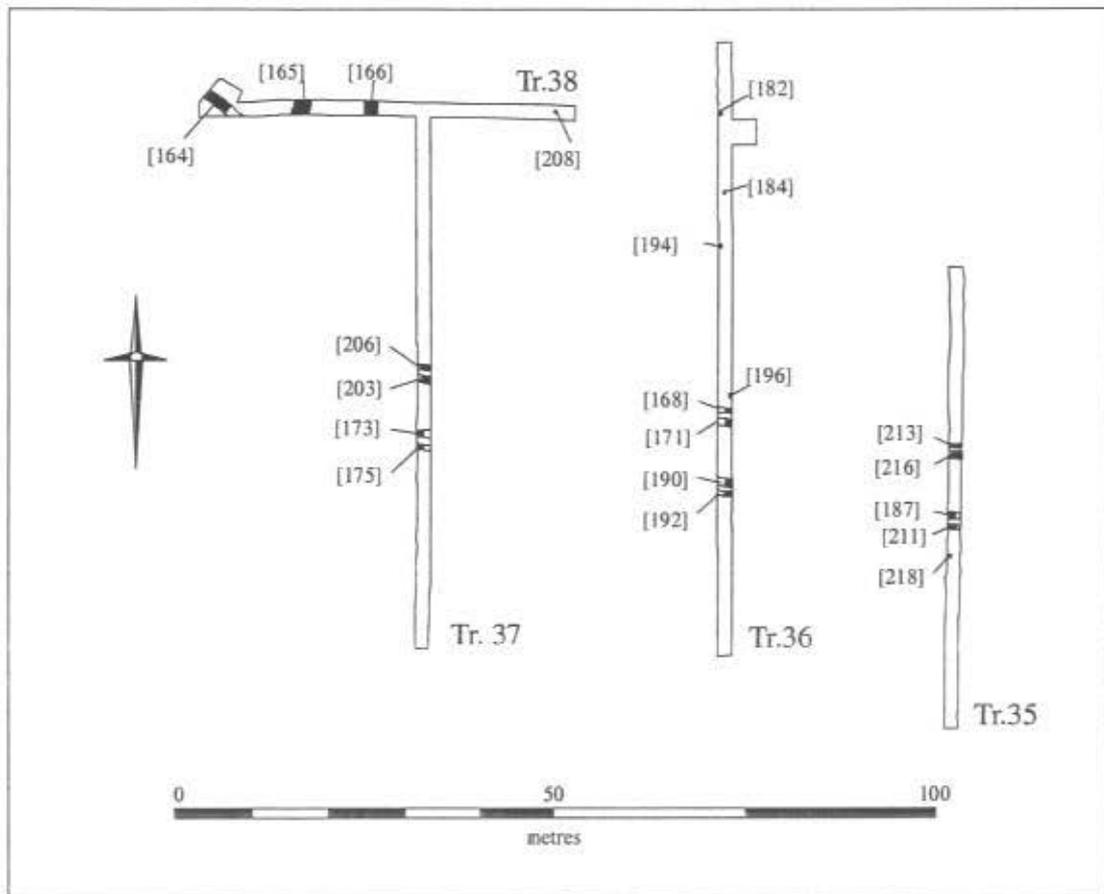


Figure 18: Trenches in Webster's Field

Topography and geology

Little variation in height was observed across the evaluation area, which lies at or just below 3m.OD. An average depth of 0.3m of topsoil was machined out in the trenches; this was a mid/dark greyish brown silt, more mineral in composition than the peat-derived topsoil in Graves' Field, and directly overlay the sandy gravel natural with no intervening subsoil horizons of any archaeological significance. This, together with the lack of any upstanding banks associated with the ditches, indicates that although the field is now under pasture, it has been truncated by ploughing in the past.

The droveway (Trenches 35, 36 and 37)

The two pairs of ditches defining the droveway were excavated in all three trenches. Section 60 (fig.19) shows the whole droveway as excavated in Trench 35. In this trench, as in the others, the inner pair of ditches represent a later phase, as on the north side the inner ditch [216] cut the outer ditch [213], while on the south side the outer ditch [211] contained a backfill deposit, probably derived from the inner ditch [187]. Its width, measured between the centres of the inner pair of ditches, was 8m. No metalling was observed in the space between the two pairs of ditches, neither was there any trace of subsoil

disturbance or the formation of a holloway as might result from heavy use, and the droveway therefore appears to have been a minor track between fields. The droveway does not appear as a cropmark feature outside the field to the east, and peters out before it reaches the NW edge of the field, perhaps because it is masked by upcast from the Car Dyke.

On the NNE side, the outer ditch, [213], measured 0.75m wide and 0.55m deep, and had a deep u-shaped profile. The fill, [212], was a mid/pale grey sandy silt with coarse sand and gravel inclusions, formed by natural silting processes. [212] was cut by the inner ditch, [216], which was 2.2m wide and 0.6m deep, with a stepped profile and a very gradual break of slope at the top. The lower 0.35m of [216] was filled by [214], a silting deposit similar to [212], while its upper fill [215] consisted of dark greyish-brown silty alluvial clay and desiccated peat, representing a natural accumulation of sediment under more waterlogged conditions.

On the SSW side, the outer ditch [211] was 1.05m wide and 0.5m deep, with the lower 0.3m filled with [210], a deposit similar to [212], while the upper fill [209] consisted of very mixed greyish-orange silty clay with occasional stones, interpreted as upcast from the inner ditch [187], deliberately backfilled into the partially silted-up feature. [187] was 1.6m wide and 0.55m deep, and contained a sequence of fills [186] and [185] identical to that of [216]. A Roman date for the droveway is indicated by a single sherd of coarse ware from [185].

The same four ditches were also excavated in Trenches 36 and 37, where they were not found to differ in any significant way from the sequence recorded in Trench 35. [169], the equivalent of [215] in Trench 36, contained a single sherd of Roman coarse ware.

Ditches in Trench 38

Two parallel ditches [165] and [166] excavated here may represent a second driveway at right angles to the first. If this is the case, it also appears to have been little used, as no metalling or disturbance was found between them. The fills of the ditches showed evidence for banks outside the putative driveway. A third ditch [164] at the west end of the trench followed a different alignment. Despite complete or near-complete excavation, no pottery was found in these features, and they therefore remain undated, although as the two parallel ditches are aligned with the surrounding cropmarks they can be tentatively assigned to the Roman period.

[165] was 2.0m wide and 0.6m deep, and contained lower fills [177] and [178] of mid brownish-grey gravelly silts derived from natural silting and weathering, which were both thicker and more gravelly on the west side, suggesting the presence of a bank eroding into the ditch. The top of the ditch was filled with [176], a mid grey alluvial silty clay, indicating an episode of flooding.

[166] was similar to [165], 2.2m wide and 0.7m deep, with a lower fill [180] similar to [177]/[178] and an upper fill [179] similar to [176]. Again, the presence of a bank was implied by the greater thickness of [180] in the east side of the ditch.

[164] was a ditch 1.7m wide and 0.55m deep, following a NE-SW alignment. Its basal fills, [197] and [198], consisted of silty gravels derived from natural silting and erosion of the edges of the feature, and were thickest on the NE side, suggesting the presence of a bank. Overlying these deposits, [199] was a layer of bluish-grey alluvial clay suggesting that this feature, in common with [165] and [166], was subject to flooding after it went out of use. [200], filling the top of the feature, was a grey gravelly silt interpreted as a tertiary fill formed when the associated bank was ploughed out.

Postholes in Trenches 36 and 38

The remaining features excavated in Webster's Field comprised six discrete features variously interpreted as pits or postholes. None of these contained any finds and, judging by their morphology and the character of the fills, some may be considered more convincing than others: [218], [194] and [208] are perhaps more plausible on account of their greater depth.

[218] was 0.5m in diameter and 0.25m deep, steep-sided, containing a fill [217] of mid-grey clayey silt with occasional stones.

[182] was a feature partially exposed in the west side of Trench 36, 0.7m wide and 0.3m deep, with steep sides and a fill [181] of pale grey silt.

[184] was 0.3m in diameter, 0.15m deep, with steep sides and a fill [183] of mid grey clayey silt.

[194] was 0.5m in diameter and 0.45m deep, with vertical sides and a mid-grey clayey silt fill [193].

[196] was a feature 0.9m wide and 0.45m deep, only partially exposed, its north side markedly steeper sloping than the south, with a fill [195] of pale grey sandy silt.

[208] measured 0.5m in diameter and was 0.25m deep, steep-sided, containing a fill [207] of orangey-grey sandy silt.

Discussion

An interpretation similar to that offered for the features in Graves' Field applies here, given the paucity of artefacts from this area. For the same reason, the postholes cannot be seen as evidence of settlement, and may relate to gateposts, shelters for animals and the like rather than human habitation.

6: THE INTEGRATED WASTE MANAGEMENT PARK

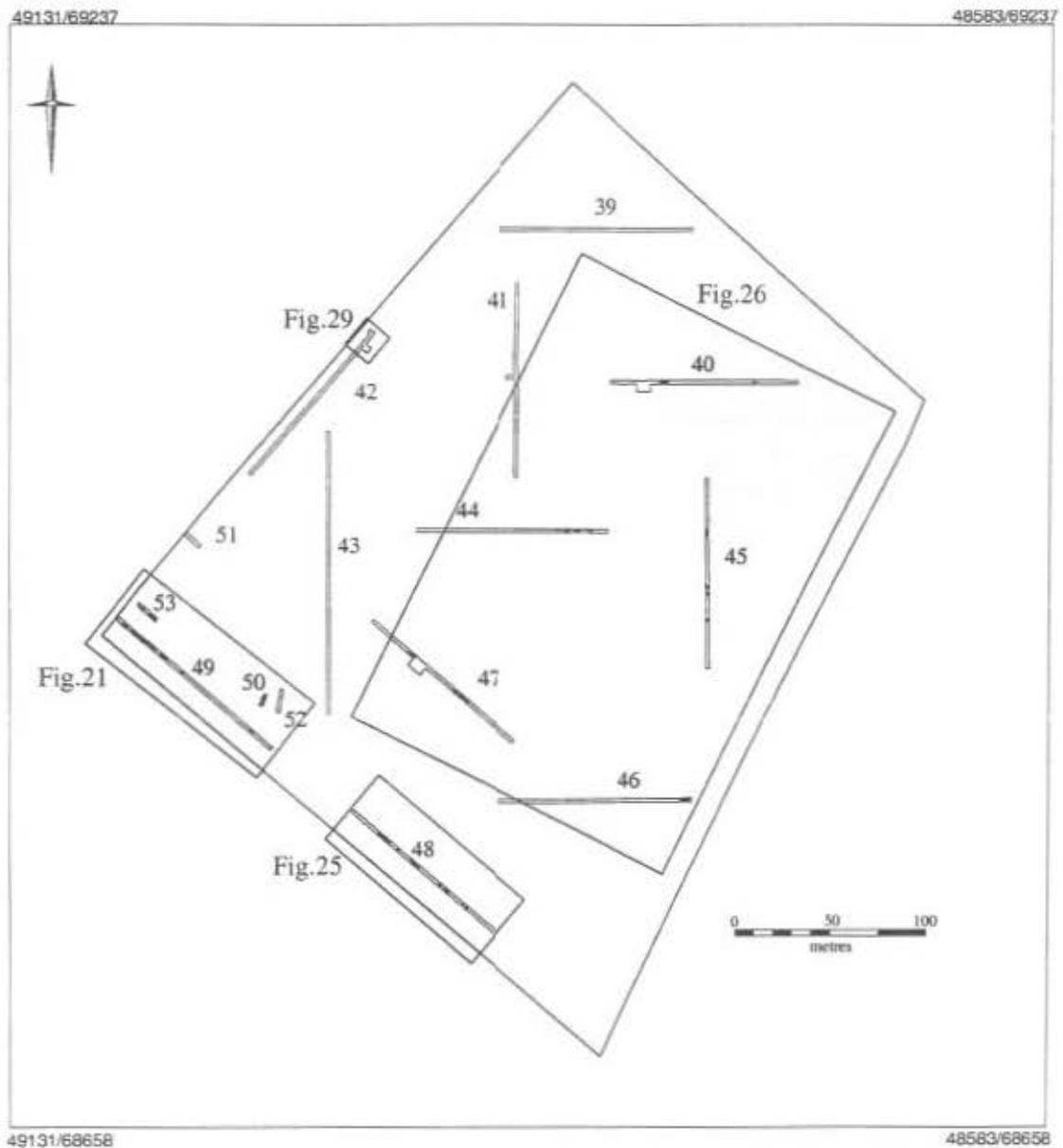


Figure 20: IWM Park

Background information

The IWM Park area (fig.20) is an 11ha. arable field lying at around 2m.OD, bounded on the south-east side by the A10 Cambridge–Ely Road, and on the north-west by the Beach Ditch, an artificial channel running from near Cottenham village north to Chittering. The modern road follows the course of the Roman road known as Akeman Street, while the Beach Ditch has medieval origins, being mentioned in documents from 1235 (Ravensdale 1974). A late Roman temple, visible on cropmarks as a double rectilinear enclosure just to the north-west of the evaluation area, was destroyed by quarrying operations in 1980. No systematic recording took place, but some finds, including more than 100 4th century coins and a miniature votive axe, were recovered. A complex of cropmarks to the south and west of the temple has also been largely lost to the quarry. This was also not recorded, but chance observations of pottery, metalworking debris, ditches and deep waterlogged pits, one containing a leather shoe, confirmed its identification as a Roman settlement (Taylor 1980).

Cropmark features related to the Roman settlement extend into the southwest margins of the field. One linear feature, parallel with and some 15m in from the southwest edge of the field, branches off to the south around 90m from the Beach Ditch while another continues for some 15m north-east from the same point. In the very corner of the field, it is met by a double-linear, presumably a droveway, entering the field from the southwest. Further to the SE, an H-shaped feature formed by two NE-SW linears with a third running between them, can also be traced next to the field boundary. Another linear cropmark bisects the SE half of the field, and could be seen on the surface as a slight depression. The cropmark continues in a more southerly direction into the next field to the SE, and although it is absent from the NE half of the evaluation area, its line is continued by a cropmark in the next field to the NE. In the centre of the field, it meets another linear feature following a rather sinuous course from NW to SE across the field, which is interrupted at this point.

In addition to the majority of trenches laid out on the National Grid, several were located to target specific cropmark features. Trench 42 was machined alongside the Beach Ditch to determine whether any archaeological material associated with the temple extended into the surrounding area, and Trenches 48 and 49 were machined along the SW edge of the field to investigate the cropmarks in this area. Trenches 50, 51, 52 and 53 were subsequently added in order to trace features identified in the other trenches.

Summary of the Results

In the west corner of the evaluation area in Trench 49, upcast material from the Beach Ditch sealed dark midden deposits containing large quantities of late Roman settlement debris, deposited over the top of a number of silted-up Roman ditches. The midden deposits lay within a pronounced hollow,

identifiable as the end of a holloway defined by the two driveway ditches to the SW. Three postholes were associated with the midden, a further indication of settlement extending into this corner of the field from the SW. A total of 11 ditches, some of them repeatedly re-cut, were excavated in Trench 49, most orientated NE-SW at right angles to the cropmark ditch. One of these ditches, which corresponds to a cropmark feature, was also identified in Trench 50, turning to the NW, and may be a boundary enclosing the settlement area or its cultivated land. The ditches sealed by the late Roman midden appeared to terminate on this ditch, as they were not identified in Trench 53. The edge of a very deep feature, possibly a pit, was excavated in this trench.

In Trench 48, four Roman ditches were excavated, all but one on a NE-SW alignment, and a single small pit or posthole, indicating the extension of Roman activity into this area. A fifth ditch was tentatively dated to the Late Bronze Age or Early Iron Age.

The cropmark feature bisecting the field from NE to SW was also identified in Trench 48, as a modern ditch following the course of a series of extensively recut Roman ditches, which had evidently survived into modern times as the slight depression visible on the surface, along which a drainage channel or field boundary was subsequently routed. Both the modern ditch and the earlier features continued into Trench 47, but only the modern ditch existed further NW in Trenches 44 and 40. The sinuous linear cropmark crossing the field from NW to SE proved to be a pair of ditches 4m apart, judged to be fairly modern on account of their very organic fills, and possibly defining a trackway.

Five ditches were excavated in Trenches 44, 45 and 47, all quite shallow, representing outlying field systems related to the Roman settlement. A cluster of gravel quarry pits, which are probably also Roman in date, were excavated in the east end of Trench 46. With the exception of a single cremation in the NE end of Trench 42, however, no archaeological evidence was encountered within 120m of the temple. As it is also more than 120m away from other cropmark features in any direction, this absence may indicate an empty space left around the temple and regarded as sacred and inviolate. As no evidence was found to date the cremation, it remains uncertain whether this was contemporary with the temple or represents a later re-use of the site.

With the single exception of the possible prehistoric ditch, all the pottery from the IWM Park was late Roman, of 2nd to 4th century date (Lucas, appendices). The material from the midden in Trench 49 was consistently mid-3rd to 4th century, representing a late phase in the settlement and possibly post-dating most of the ditches.

Environmental samples analysed from the midden and the cremation contained a preponderance of wetland plant species, consistent with a fen edge meadow environment.

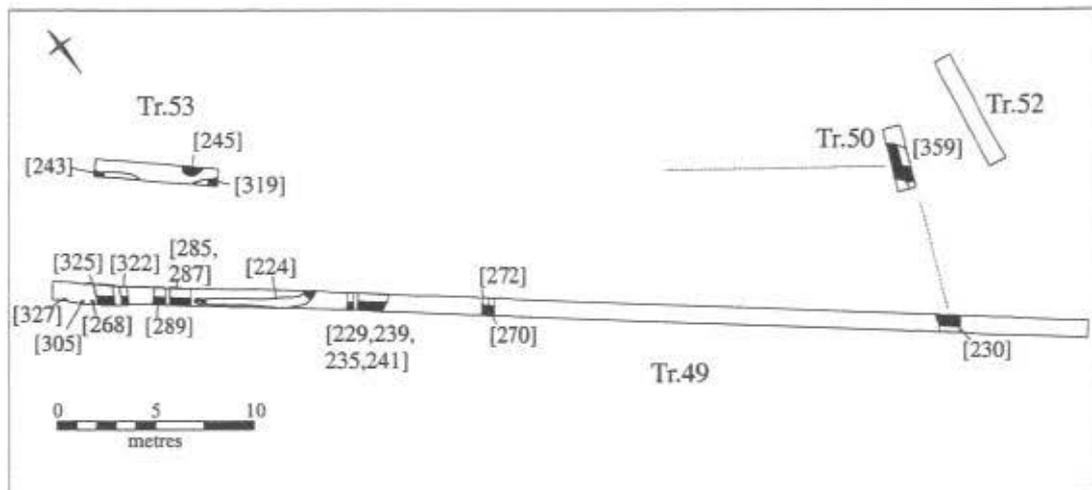


Figure 21: Detail of Trenches 49, 50, 52 and 53

Ditches sealed by the buried soil in north-west end of Trench 49

Figure 22 shows the stratigraphic sequence in the northwest end of Trench 49 (see also fig.21). The earliest features were four ditches [287], [289], [322] and [325] orientated NE-SW across the trench. The dimensions given for these ditches may not reflect their original size, given that the ground surface has been somewhat lowered and truncated. One or more of these ditches may be associated with the droveway which is visible as a double-linear cropmark feature in the adjacent field. A buried soil horizon containing pottery dating to between 140 and 240AD sealed all four of these ditches, filling the uppermost parts of their profiles and lying in a hollow, probably the result of prolonged use and repeated reworking of the droveway, which has caused it to develop into a slight holloway. The preservation of the buried soil may be explained by its location in this holloway, and by the subsequent deposition of layers of Roman midden material and upcast from the Beach Ditch.

[325] was 1.9m wide and 0.9m deep, with a V-shaped profile, containing a fill [326] of mottled pale orange-grey sandy silt, with patches and lenses of yellowish-brown sand, probably formed by silting with a great deal of weathering of the surrounding natural, which in this trench consisted of fairly unconsolidated sand.

[322] was 0.6m wide and 0.45m deep, with a steep-sided V-shaped profile. The fill of the lowest 0.15m of this ditch, [323], consisted of mid-pale grey sandy silt with yellowish-brown sandy patches, produced by natural silting and slumping of the edges. Above this, [324] was a 0.15m thick layer of very dark grey, almost black organic silt containing some charcoal and large quantities of late Roman pot and other material, a deposit very similar to the stratigraphically later midden deposit [281]. Finds from the two deposits [323] and [324], collectively referred to as [410], dated to between 180 and 240AD.

[289] was 1.2m wide and 0.3m deep, with a fill [288] of pale yellowish-grey silty sand. [287], truncated on the SE side by [285], was an estimated 1.6m wide and 0.8m deep, with a deep U-shaped profile. The lower 0.2m was filled with [307], a pale yellowish-grey silty sand.

The buried soil horizon varied somewhat in composition, probably due to different degrees of disturbance and trampling associated with use of the droveway and deposition of the midden. Towards the SE, over [287] and [289], [286] (also excavated as [290]) was between 0.1 and 0.15m thick, a mid brownish grey sandy/gravelly silt; to the NW, over [325], this merged gradually into [331], a deposit of pale yellowish-grey mottled sandy silt, up to 0.3m thick.

Trench 49: Roman postholes and occupation deposits

Three postholes [268], [305] and [327] were cut into the buried soil [331]. They were fairly evenly spaced in a straight line, and probably formed one side of a building. A layer [330] overlying these was interpreted as a midden or occupation deposit, associated with the structure that the postholes represent.

[268] was 0.3m wide and 0.2m deep, with steep to vertical sides, containing a fill [269] of soft mid-grey sandy silt with occasional gravel inclusions. [305], containing fill [306], was similar, while [327] was 0.5m wide and 0.25m deep, with a fill [328] similar to that of the other two postholes. [269] and [328] both contained Roman pottery.

All three postholes were sealed by [330], a layer of dark grey organic silt up to 0.15m thick, which covered the north-western 3m of the trench, very similar in composition to the fills of the postholes. Pottery from this layer was dated to 180AD or later.

Further to the SE, a ditch [285] was backfilled with a Late Roman midden deposit [281], similar to the layer [330] associated with the postholes, which spread out beyond its edges across the area of the holloway. Whether the droveway was still in use during this phase is unclear: the ditch may be unrelated to it, and have been dug instead to enclose a group of buildings established beside or ontop of it.

The ditch [285] was 1.8m wide and 0.7m deep, and truncated one of the earlier ditches, [287]. It contained no primary silting deposits other than [284], a layer of pale greyish-brown silty gravel no more than 50mm thick on the SE side.

Immediately after [285] was dug (or cleaned out for the last time), it was backfilled with the midden deposit [281] (recorded elsewhere as [041], [283] and [329]), a layer of very dark grey to black organic silt, which spread for 7m to the NW of [285] as a layer up to 0.3m thick, visible in the section. It contained occasional lenses and flecks of charcoal and large quantities of late Roman pot, animal bone and other items of domestic refuse including quern fragments and oyster shells. The faunal assemblage from this layer was dominated by cattle and sheep/goat, interpreted as primary and secondary butchery waste (Clarke, appendices). Environmental analysis showed that its very dark colour was due to the presence of very fine particles of charred material and also decayed organic material that might have derived from some deliberately collected resource such as sedge (Ballantyne, appendices). It contained a wealth of datable material from the late 3rd and 4th centuries. Pottery from other contexts associated with the midden, namely [244], [318] and [396], was of a similar date. The spoil from this part of the trench was spread out with the machine bucket and scanned with a metal-detector: the resulting finds, a miniature bronze votive axe and two coins, one dating to the late 3rd century and the other to the late 4th century, probably also derive from the midden or associated deposits.

The Roman midden deposits were sealed beneath, and thus preserved by, deposits [280] and [332], interpreted as upcast from the medieval Beach Ditch. These deposits undoubtedly represent repeated cleaning-out of the Beach Ditch, which remains in use as a field drain, from its medieval origins to the present day. Deep soil profiles containing similar deposits were observed elsewhere along the Beach Ditch, in Trenches 42, 51 and 53.

The slight depression remaining following the backfilling of [285] with [281] was filled by [282], a 0.2m thick layer of dark brown peaty silt, a natural accumulation under partially waterlogged conditions.

Overlying [282] and all the other deposits in the NW end of the trench was [280], a layer of compact, dark greyish-brown clayey silt containing occasional stones and patches of blue-grey clay. It was up to 0.25m thick and petered out about 20m from the NW end of the trench. Towards the NW, another layer was recorded in section below [280] and overlying [330]: [332] consisted of mixed grey and yellow sandy silt with gravel inclusions, and was up to 0.15m thick. Both [280] and [332] have a very mixed appearance, consistent with layers of upcast from the excavation and scouring-out of the Beach Ditch.

Other features in Trenches 49 and 50

The remaining ditches in Trench 49, [224], [270], [272], [229], [239], [235], [237], [241] and [230] all contained Roman pottery which, where it included sufficiently diagnostic material, was of 2nd or early 3rd century date, implying that these features are somewhat earlier than the midden and are more likely to be contemporary with the ditches underlying it.

[224] was a ditch up to 1.5m wide and 0.4m deep, which terminated in a butt-end just to the SE of [285], continuing in a SE direction along Trench 49 for 11m before turning to the NE into the section. It contained a fill [223] (also referred to as [225] and [227]) of mid brownish-grey sandy silt, with occasional charcoal flecks which became more concentrated towards the north-western butt-end. The sherds from this feature were from 2nd century grey wares.

Further to the SE, two pairs of ditches, spaced 5.5m apart, were excavated, an arrangement which recalled the driveway in Webster's Field. Of the south-eastern pair, [270] on the SE side was 0.65m wide and 0.4m deep, with a steep V-shaped profile, while [272], immediately to the NW, was very similar, 0.75m wide and 0.5m deep. Their respective fills, [271] and [273], both consisted of pale brownish-grey sandy silt, with few inclusions, containing Roman coarse ware sherds. The north-western pair comprised [229], a steep-sided ditch 0.8m wide and 0.55m deep, and immediately to the SE, [239], which appeared to be of similar dimensions but was truncated by another ditch [237]. The fills of this pair of ditches, [228] and [238] were similar to [271] and [273] and contained sherds of late 2nd/early 3rd century grey wares and Nene Valley colour-coated wares. It was not possible to determine whether one ditch in each pair was dug to replace the other, or if they were contemporary.

[237], truncating [239], was a ditch 0.7m deep, containing a mid grey silty sand fill [236]. Immediately to the SE was another ditch, [241], 1.5m wide and 0.6m deep, containing [240], a fill similar to [236]. This feature appeared to be following a more easterly alignment to [237]. Both ditches were apparently cut by a third ditch, [235], a cut 1.5m wide and 0.6m deep, with a fill [234] of dark grey silt, becoming more

peaty and organic near the top. All three fills contained sherds of Roman coarse wares.

[230] was a ditch 2.3m wide and 0.7m deep; it was filled successively by [231], [232] and [233], varying from dark grey clayey silt in the base to mid-pale silt in the top, representing a gradual accumulation of silt following abandonment. This is undoubtedly the feature visible as a cropmark.

The continuation of [230] was revealed in Trench 50, curving round to the NW, where its cut, [359], measured 4.0m wide and 0.95m deep, and again contained a succession of deposits derived from gradual silting. [376] and [377], layers of greyish-yellow silty sand and gravel, were derived from primary weathering of the feature, the greater thickness of this material on the SW side being probably derived from a bank. In the base, [360] consisted of dark grey peaty silt, an accumulation of silt and organic material in the waterlogged base of the ditch. [358], filling the greater part of the cut, was a mid grey sandy silt representing the secondary silting of the ditch following abandonment, with a greater proportion of gravel on the SW side from the continued erosion of the bank, and contained Roman grey ware sherds. The top of the feature contained a 50mm thick layer of alluvial clay [378]. Aerial photographs show a linear cropmark extending east from the corner of this ditch, but no such feature was identified here or in Trench 52.

Trench 53

Trench 53 did not pick up the continuation of ditch [359], which must run somewhat further to the SW. Three features were partially revealed, all of which were filled by a blackish silt horizon which is undoubtedly the same as the midden [281] in Trench 49. A ditch [243] was tentatively identified as the

continuation of [285], turning to the NW to enclose the structures represented by the postholes in Trench 49. A second feature [319] to the SE is most likely (given its great depth) to be a well. A third feature [245] proved to be very shallow, and may be the result of tree root or other natural disturbance rather than a deliberate cut.

Less than half of ditch cut [243] was visible in the trench: it was a ditch on a NW-SE alignment, at least 0.8m deep. The lower fill [396] consisting of very dark grey organic silt, undoubtedly the same midden deposit recorded as [281] in Trench 49. Overlying this, in the upper 0.3m of the feature, was a layer of mid greyish brown alluvial clayey silt [278].

[319] was a large feature only partially revealed against the baulk of the trench. The edge of the cut sloped steeply to a depth of 0.7m, before dropping vertically to the base. Below 1.2m deep, hand excavation became impossible, but probing with a cane established the full depth against the section as 1.75m below the base of the topsoil. The lowest fill excavated, [318], was dark, almost black, soft organic silt, with progressively fewer inclusions towards the base. This merged gradually into the overlying deposit, [317], a dark brownish-grey slightly sandy silt, with occasional charcoal and small stones. In the upper 0.4m of the cut, this merged into [316], a dark brown peaty silt, becoming increasingly stony and clayey towards the base of the topsoil.

A third feature in this trench, [245], was a slight and irregular hollow 2.5m wide and less than 0.1m deep, filled with [244], dark grey sandy silt with patches of charcoal and sand, probably a continuation of the midden deposit.

Trench 48

Six ditches and a small pit were excavated in this trench, in addition to the central cropmark ditch also seen in Trenches 47, 44 and 40 which will be discussed separately. The only one of these to contain any dateable material, ditch [262], produced Late Bronze Age or Early Iron Age flint-tempered pottery, and therefore appears to represent part of a prehistoric field system, raising the possibility that some of the undated features in the IWM Park, and cropmarks in the vicinity, may also belong to a prehistoric phase.

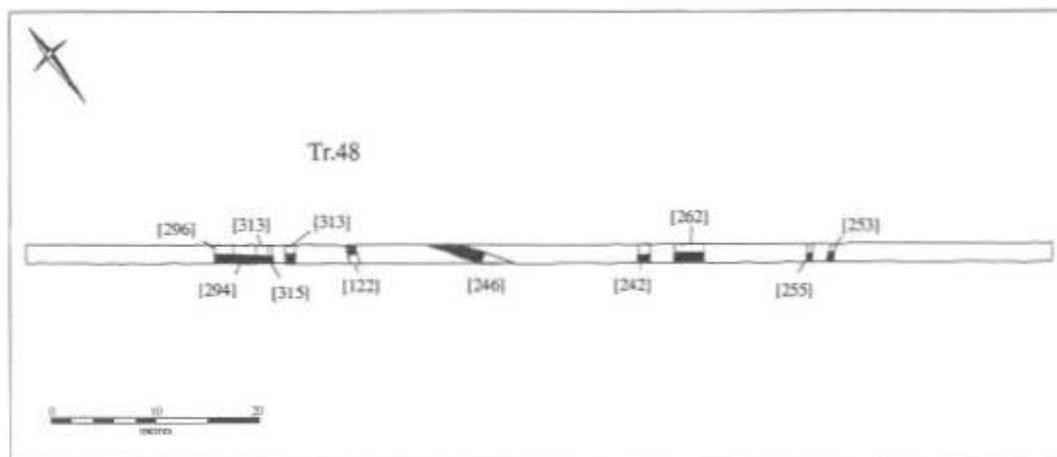


Figure 25: Detail of Trench 48

[242] was a ditch 1.2m wide and 0.3m deep, with a rounded profile, filled by [222], a pale grey sandy silt indicating a gradual accumulation after abandonment.

[262] was 3.1m wide and 0.65m deep, the SE edge fairly steep, the NW much more gently sloping. A primary fill [261] of pale greyish-yellow silty sand and gravel filled the lower 0.1m, while the rest of the cut contained a secondary silting deposit, [260], of mid grey sandy silt. The broad, asymmetrical profile of this ditch suggests that the original cut may have been recut or modified, although there was no trace of this in the fill.

[221] was another ditch 1.2m wide and 0.5m deep, containing a pale grey sandy silt fill [220], similar to [222].

[253] and [255] were two parallel ditches, each 0.6m wide and 0.3m deep, filled respectively by [252] and [254], both consisting of mid-grey sandy silt. These closely resemble the other two paired ditches [270] and [272], and [229] and [239], recorded in Trench 49.

Unlike the aforementioned ditches, which all followed a NE-SW alignment, ditch [246] was aligned SSE-NNW. It was 1.2m wide and 0.45m deep, and contained a fill [247] of pale grey silt mixed with frequent patches of yellowish-brown silty sand and gravel, indicative of rapid, deliberate backfilling.

[257] was a small pit or posthole 0.5m wide and less than 0.1m deep, containing a fill [256] of mid-dark grey sandy silt, with occasional charcoal flecks and stones.

The central ditch in Trenches 40, 44, 47 and 48

A ditch bisecting the field from SE to NW, partially visible on aerial photographs and as an earthwork on the ground, was observed in Trenches 48, 47, 44 and 40. In all four trenches the latest feature was clearly modern, but in Trenches 47 and 48 this feature followed the line of a series of Roman ditches (see figs.27 and 28). The Roman ditches here were repeatedly re-cut or re-worked, emphasising the importance of this boundary. This alone may be responsible for its survival as an earthwork, or else the ditches may have been associated with a well-used trackway, which in time developed into a slight holloway. This did not, however, extend all the way across the modern field, as although the dark, modern ditch was also seen in Trenches 44 and 40, partial excavation in both places showed that no earlier ditches were present.

In Trench 48, a modern ditch [296] cut one of a sequence of at least three earlier ditches (see fig.27). On the SE side, [315] was 1m wide and 0.4m deep, with a mid-pale silty fill [314]. It may have been related to another ditch [321] with fill [320], which was almost identical. [315] was cut by [313], a ditch cut 2.2m wide and 0.6m deep, which contained a lower fill [312] of mid-grey gravelly silt, and a very heterogeneous upper fill [311] of grey silt with frequent gravel lenses, probably indicating deliberate backfilling following a period of gradual silting. Immediately to the NW of [313], but not quite overlapping, was another ditch cut [294], at least 2.5m wide and 0.7m deep. The SE edge of this cut was covered by [308], a thick layer of pale brown silty gravel. Overlying this, [293] was a deposit of grey gravelly silt. Overlying [293] to the NW, [292] was a layer of clayey silt, capped with [291], a deposit of mid-brown gravelly silt: [292] and [293] may in fact lie within another re-cut, cutting [293]. [292] and [311] both contained a single sherd of Roman greyware.

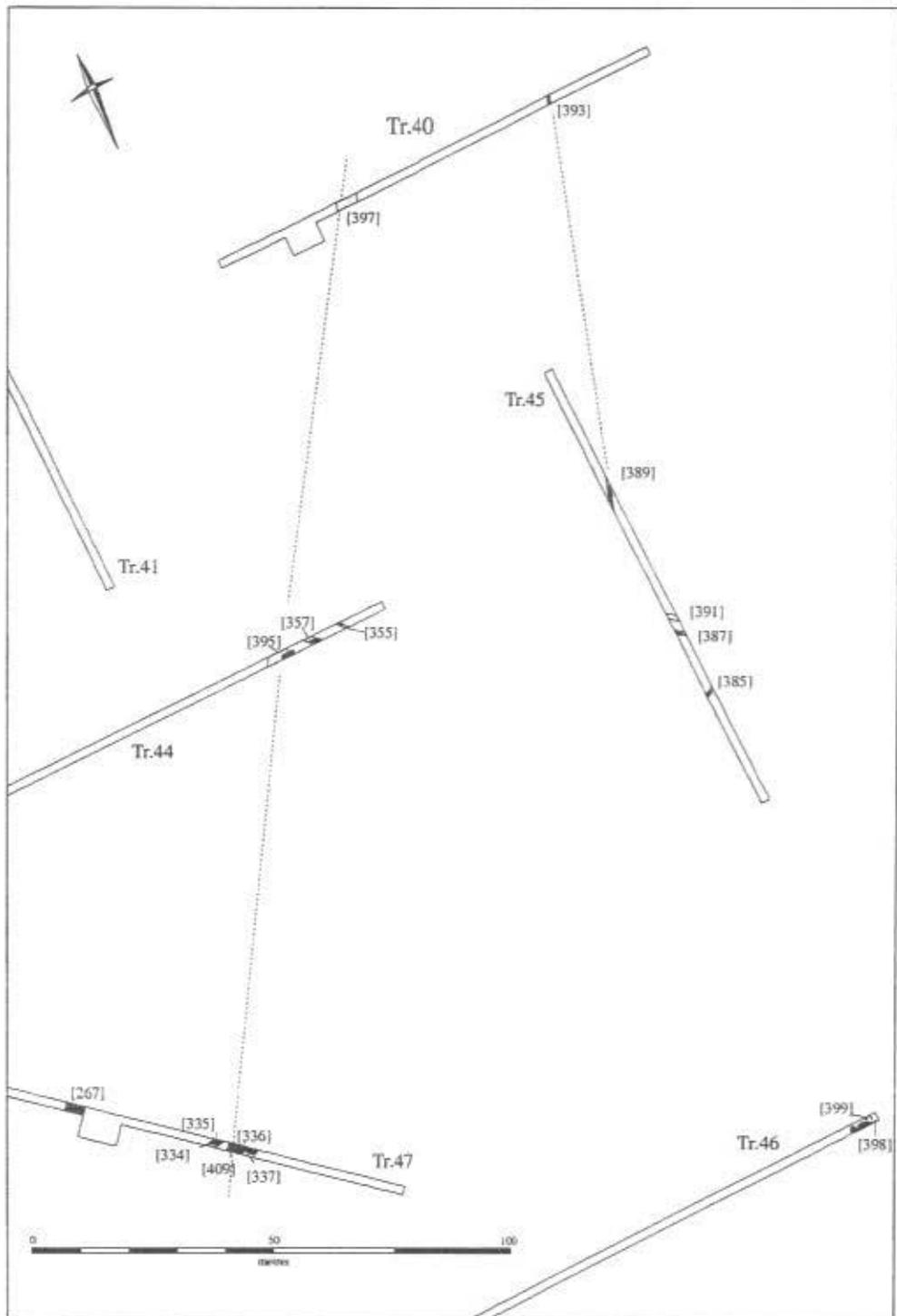


Figure 26: Detail of east side of IWM Park

Both [294] and [313] were cutting [309], a deposit of reddish-brown silty gravel which may be the fill of another, heavily truncated ditch [310], but may simply be a layer within the natural gravel. [291] was cut by [296], a modern ditch cut 2.3m wide and 0.5m deep, with a dark greyish-brown organic clayey silt fill, very similar to the topsoil and with two ceramic land drains set into it.

A similar sequence was observed in Trench 47 (see fig.28), where four ditches predated the modern feature, none of which contained any dateable material, but which can be assumed to be Roman on the basis of their similarity to the earlier ditches in Trench 48. On the SE side, [337] was a ditch cut 2.2m wide and 0.6m deep. Its lowest fills, [371] and [372], were gravelly silts derived from natural weathering and silting. Above these, [373] and [374] were deposits of brown silty gravel mixed with patches of sand and grey silt, which may be the upcast from the neighbouring ditch [336], backfilled into the disused ditch. [336] was 0.55m deep, its width uncertain due to truncation, containing a lower fill [367] of pale orange-grey silty sand and gravel, and upper fill [368] of darker, orange-brown, iron-panned silty gravel. This was cut by the modern ditch observed in Trench 48, [409] with fills [369] and [370]. To the NW of [409], another early ditch [335] measured 1.6m wide and 0.45m deep. The base of the cut contained [364], mid dark grey silt with occasional stones, charcoal and burnt flint. Most of the cut was subsequently backfilled with [365], a mixed gravelly silt with patches of sand and gravel, possibly derived from the upcast from the neighbouring ditch [334]. Further silting in the top of the backfilled ditch was represented by [366], a deposit of mid grey sandy silt overlying [365] on the SE side. [335] was cut by [334], another ditch of similar dimensions, containing primary/weathering fill [361], a pale grey-brown sandy silt, and secondary silting deposits [362], mid pale grey sandy silt, and [363], slightly darker grey sandy silt with brown mottling.

Outlying field ditches in Trenches 40, 44, 45 and 47

Five ditches [267], [355], [357], [385] and [389]/[393] in the NE half of the IWM Park form elements of an outlying system of field boundaries, the overall structure of which, however, remains unclear. Most of these were relatively small and shallow, with pale fills that contained little cultural material, suggesting their remoteness from settlement foci. Where evidence was available to date these features, they proved to be Roman.

[267] was a ditch 3.4m wide and 0.5m deep, on a similar alignment to the central ditch. It contained fills [338] to [348], all of which were gravelly silts and silty gravels indicative of the gradual silting up of the feature following abandonment.

In Trench 44, two parallel ditches were excavated, spaced 5m apart on a NW-SE alignment. [355] was 0.6m wide and 0.4m deep, with a fill [354] of mid-pale grey, slightly calcareous silt, with moderate small stones and occasional charcoal flecks, browner and more gravelly towards the top, that contained a sherd of Roman greyware. The other ditch, [357], was 1.5m wide and 0.5m deep, with a fill [356] very similar to [354].

[385] in Trench 45 was a ditch with a NE-SW alignment, 0.7m wide and 0.35m deep, with a fill [384] of mid yellowish grey sandy silt with occasional charcoal flecks.

Also in Trench 45, [389] was a ditch on a NNE-SSW alignment, 0.7m wide and 0.3m deep, with a fill [388] similar to [384]. No finds were recovered despite 3.5m of this feature being excavated. However, [393], with fill [392], in Trench 40, which can be assumed to be the continuation of [389], contained a sherd of Roman coarseware.

Other features

At least five intercutting pits [351], [352], [353], [398] and [399], probably for gravel extraction, were identified in the eastern end of Trench 46 (see fig.26). No finds were recovered from these pits, but, judging by their pale, leached fills, a Roman rather than medieval date seems most likely.

Three of these pits, [351], [352], and [353] were excavated by hand: all three were between 1m and 1.5m wide and at least 2m long, being only partially revealed by the trench, and were 0.85m deep with very steep or vertical sides. They all contained a very mixed lower fill [350] of pale brown silt with frequent patches of mid grey silt, sand and gravel, showing a great deal of slumping of the edges, produced by deliberate backfilling of the spoil from an active gravel pit into an adjacent, worked-out one. This was sealed by [349], a 0.3m thick layer of pale brown, slightly sandy silt. Similar pits, which were not excavated, are marked on the plan as [398] and [399].

A undated cremation [275] was excavated in the NE end of Trench 42, about 20m from the location of the outer ditch of the temple.

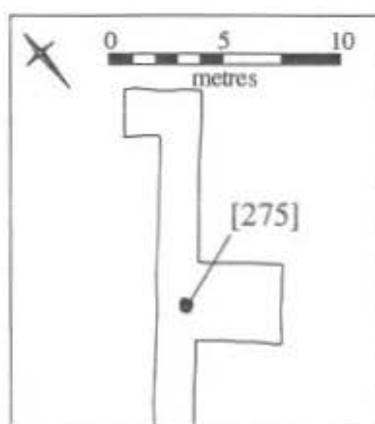


Figure 29: Detail of Trench 42

The cut [275] was 0.6m in diameter and less than 50mm deep, cut through the buried soil sealed beneath the upcast from the Beach Ditch, and barely penetrating the underlying gravel. The fill, [274], consisted of dark grey silt with concentrations of charcoal and burnt bone. Examination of the bone confirmed that it was human, although in too fragmentary and incomplete a state to address issues such as age, sex and pathology (Samantha Smith & Paula Whittaker, pers.comm.). Small crumbs of pottery were also recovered, but were too fragmentary to be of any use in dating the cremation. Although the trench was extended on both sides of this feature, no other cremations were found.

The sinuous linear feature seen on the aerial photographic plots, bisecting the field from NW to SE, was identified in Trenches 41 and 45 as a pair of ditches [391] and [387] 4m apart. Excavation of one of these ditches showed it to be modern, possibly a trackway separating two fields. The cropmark stops on either side of the central ditch, apparently respecting the other modern feature, and this was confirmed by the excavation, as it was not observed in Trench 44 although it was also recorded in Trench 41.

Only one of these ditches was sectioned, as [387] in Trench 45. It was 0.8m wide and 0.45m deep, and contained fill [386], a mid greyish brown, very organic silt, with abundant white chalky flecks, presumably derived from the subsoil which was locally quite calcareous. It contained partially decayed wood fragments, which in the absence of any waterlogging can be taken as evidence for a fairly modern date. [391], the other ditch in Trench 45, was not excavated but appeared identical in every respect.

Discussion

Only one feature, ditch [262], contained prehistoric material. This would appear to be an outlier of a Late Bronze Age or Early Iron Age field system, the extent of which is unknown.

The IWM Park lies on the fringes of Late Roman settlement which was clearly concentrated further to the west and south. Judging by the evidence of Trench 49, in particular, there appear to be two phases to this activity. Initially, in the 2nd and earlier 3rd centuries, the area was divided up by field ditches, but later, in the late 3rd or 4th century, at least some of these ditches went out of use and the settlement itself appears to have spread into the western corner of the area.

The near-absence of archaeological evidence from the environs of the temple was unexpected and calls for comment. While it is possible that the cremation forms part of a small cemetery, and other discrete features may have been missed by the evaluation trenches in this area, what is significant is the absence of systems of field ditches, which in most cases *are* successfully identified by systematic trial trenching. The most likely explanation, and one that is also suggested by the cropmark evidence, is that this area was deliberately left as an empty space surrounding the temple.

7: THE FINDS: INTRODUCTION TO THE SPECIALIST REPORTS

887 sherds of pottery, weighing a total of 10.501kg, were recovered. The vast majority of this material was Roman, mostly from the IWM Park, and this was analysed by Gavin Lucas (appendix 1). Mark Knight examined the prehistoric pottery (appendix 2).

16 pieces of worked flint were recovered, only 7 of which were from hand-excavated contexts, the rest coming from the machined-out topsoil and subsoil. This material is judged by Chantal Conneller (appendix 3) to be of mixed date, ranging from early Mesolithic to Bronze Age. The 15 fragments of burnt flint occurred in very small quantities in a wide range of contexts, and there is no reason to think that any of it was deliberately burnt.

Figure 30: Finds from the Late Roman midden. Miniature bronze votive axe (left) and Samian sherd with lead repair from [329]/[331]. Both shown actual size.

The only metalwork consisted of two coins, a miniature bronze votive axe and fragments of copper alloy sheet, all found with a metal detector in the spoil from the area of the midden, in the NW end of Trench 49. The coins were identified by Adrian Challands as a radiate, dating between 275 and 300AD, and another copper alloy coin dated to 350-400AD judging by its size and thickness.

Other artefacts included six fragments of lava quern and six quern fragments of other types of stone, all from Roman contexts in the IWM Park, and four fragments of Roman tile.

The faunal assemblage comprised 785 bone fragments, weighing a total of 8.267kg, which has been analysed by Andy Clarke (appendix 4)

Five bulk samples were taken to evaluate the environmental potential of burnt and waterlogged deposits excavated in The Undertakers and the IWM Park, which have been analysed by Rachel Ballantyne (appendix 5).

8: CONCLUSIONS

Two areas within the Undertakers and the IWM Park stand out as being archaeologically significant. In The Undertakers, the discovery of a Late Bronze Age settlement is important given that the previously existing evidence for prehistoric settlement on the Fen edge along the Old West River is sparse and does not include any excavated sites. The number of features

identified was small, but not unduly so for the period. The presence of postholes attests to a degree of permanence of settlement, and the waterlogged deposits in the deep pits offer a good opportunity for investigating the prehistoric environment and economy of the area. This evidence may give a settlement context to the quantities of Bronze age metalwork found by chance discoveries along the River Cam and the southwest Fen edge (Bradley 1990). The extent of Late Bronze Age activity is quite small and discrete, and limited to a low rise in the centre and west, with no definite features occurring below 2.1m.OD.

In the IWM Park, the most concentrated archaeology identified lies within 50 metres of the SW boundary of the field. It comprises elements of a Late Roman settlement which appears to lie mostly in the adjacent field to the southwest, having extended into the area now occupied by the landfill to the west. The presence of the votive axe within the midden material provides a link to the shrine.

Other areas covered by the evaluation proved to be less significant. A number of features were identified in the IWM Park, away from the main focus of activity on the south-west side. The cremation appears to be isolated, but the possibility of other single interments cannot be totally discounted. The central cropmark ditch appears to have been a long lived boundary or trackway on account of its repeated re-cutting. Elements of a system of field boundaries were also identified in the north-western part of this area.

In Graves' Field, a Roman ditch, possibly part of a droveway, and two small gullies which are probably also Roman, were identified. The Roman activity seems to be restricted to the south-west edge of the evaluation area.

In Webster's field, the features were interpreted as predominantly field ditches and associated droveways, with no indications of any settlement in the vicinity. Due to the paucity of finds from this area, their dates remain problematic, as do the relationships between the droveway, the other ditches and the Car Dyke; however, on available evidence they all appear to be Roman.

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APPENDIX 1: THE ROMAN POTTERY (Gavin Lucas)

A small assemblage of Roman pottery was recovered and scanned in order to provide basic information on assemblage composition and spot dates. The pottery came from three of the four sub-sites investigated (Graves Field, Websters & IWM Park), although the vast majority (over 96% by weight) derived from the IWM Park site.

Graves Field

Only 4 sherds (4g) came from this site and apart from being indentified as Roman, are undiagnostic.

Cat. No.	Context	Number	Trench	Weight	Notes	Date
	r			(g)		
3	76	2	2	1	Romano-British coarseware	RB
14	279	2	2	3	Romano-British coarseware	RB

Table 1. Roman Pottery from Graves Field

Websters

Only 7 sherds (35g) came from this site and as with Graves Field, were undiagnostic beyond being Roman.

Cat. No.	Context	Number	Trench	Weight	Notes	Date
	r			(g)		
2	57	2	35	21	Romano-British coarseware	RB
16	185	1	35	5	Romano-British coarseware	RB
31	39	3	36	9	Romano-British coarseware	RB
15	169	1	36	<1	Romano-British coarseware	RB

Table 2. Roman Pottery from Websters

IWM Park

Clearly the major focus of Roman activity within the assessment area, this site produced 842 sherds (over 10.1kg) most of which was fairly diagnostic. As a whole, the pottery assemblage from this site spanned from the late 2nd century to the mid 4th, the only potentially earlier group coming from [225] which could be as early as 1st, although this is only tentative. The assemblage is dominated by local greywares, undoubtedly mostly from Horningsea, including several of its trademark storage jars. In addition, Nene valley colour-coated vessels, Hadham redwares and some shelly wares are also

present, as well as Central Gaulish (Lezoux and Les-Martres) and possibly East Gaulish Samian. In terms of vessel composition, the usual types are present – jars, dishes, bowls and beakers; only one mortaria and one flagon were noted and no amphora.

There were no vessels of any intrinsic interest except for fragments of a Central Gaulish Samian Dr.37 bowl which have a lead repair rivet ([329/331]). The bowl itself is decorated into small panels divided by wavy lines, in the main panel is a lion leaping left to right and underneath it, a bird. The ovolos are also bordered by a wavy line and separated by trilobed tongues. The vessel can be approximately dated to Hadrianic-Antonine period (120-140 AD) but given the repair, it is clearly an 'old' item in an assemblage otherwise dateable to 180-240 AD.

The only other point to make about this assemblage concerns a large group of sherds from what appears to be the same vessel in [329]; the sherds are almost all of a similar size and look as if they have been *deliberately* broken up/pounded down, perhaps in preparation for use in a floor or similar structural element.

Cat. No.	Context	Number	Trench	Weight (g)	Notes	Date
50	392	3	40	12	Romano-British coarseware	RB
134	275	15	42	2	prehistoric? tiny crumbs	?
48	354	1	44	73	Roman greyware, incl. jar	RB
1	52	1	47	45	Romano-British coarseware	RB
12	260	5	48	10	LBA/EIA flint gritted	LBA
25	292	1	48	12	Roman greywares	RB
32	311	1	48	7	Roman greyware	RB
53	41	111	49	2250	Roman greyware jar & dish, Horningsea storage jar, shell-tempered jar, Hadham redware necked bowl, Hadham greyware jar, NVCC flanged bowl, dish, rouletted bowl, NV mortarium, CG Samian Dr.31R (x2)	270-350 AD
9	223	4	49	81	Roman greyware, incl. Rimmed bowl	140-240 AD
18	225	2	49	39	Roman greywares, incl. Lid & carinated jar	1st/early 2nd c.
17	227	3	49	104	Roman greyware, incl. Cordoned jar	2nd c.?
19	228	3	49	12	Roman greywares and NVCC beaker	180-240 AD
26	234	2	49	15	Romano-British coarsewares	RB
10	236	4	49	100	Romano-British coarseware	RB
11	240	1	49	2	Romano-British coarseware	RB
13	269	3	49	17	Romano-British coarseware & Samian Dr.31	RB
28	271	2	49	18	Romano-British coarseware	RB
29	273	1	49	<1	Romano-British coarseware	RB

20	280	3	49	23	Roman greywares	RB
21	281	7	49	123	Roman greywares	RB
23	283	41	49	535	Roman greywares incl. Storage jar, dish, NVCC bowl with white-painted scrollwork	300-350 AD
24	284	1	49	3	Romano-British coarseware	RB
22	286	2	49	21	Roman greywares & NVCC dish	140-240 AD
30	290	5	49	95	Romano-British coarseware	RB
37	326	6	49	81	Roman greyware & white-slipped ware	RB
40	327	1	49	17	Roman shell-tempered	RB
41	329	421	49	3699	a) Roman greywares, incl. Horningsea storage jar, dishes, jars flanged and rimmed bowl, NVCC castor box, imitation Dr.36 dish, flanged bowl, beaker; b) coarseware storage jar, pounded down into similar size sherds	240-300 AD
46	330	7	49	53	Roman greyware, NVCC beaker	AD180+
47	331	4	49	22	Romano-British coarseware	RB
54	410	70	49	1012	Roman greyware jar & bowl, shell-tempered jar, NVCC dish & beaker, CG Samian Dr.33	180-240 AD
42	329 331	/46	49	646	Roman greyware, incl. Dish & jar, storage jar, NVCC flagon/jar, CG Samian Dr.37 with lead repair rivet	180-240 AD
49	358	11	50	83	Roman greywares	RB
27	244	11	53	145	Roman greywares, NVCC beaker	270-350AD
33	317	2	53	18	Roman greyware & buffware	RB
35	318	3	53	9	NVCC & Hadham redware	300-350 AD
51	396	30	53	612	Roman greywares incl. Jars, NVCC rouletted bowl, imitation Dr.31, beaker, flagon, Hadham redware, ?CG Samian Dr.31	270-350 AD
52		13	53	114	Roman greyware jar, shell-tempered, Samian Dr.33	AD140+

Table 3. Roman Pottery from IWM Park

APPENDIX 2: THE PREHISTORIC POTTERY (Mark Knight)

The assemblage comprised 37 pieces of pottery (32 from The Undertakers and 5 sherds from the IWM Park). The 32 sherds from The Undertakers came from five separate contexts within 3 features: [122] and [136] within pit [120], [100] and [119] within pit [101], and [116] within posthole [115]. A near complete vessel from [136], a small plain rimmed cup (52mm in height and 75mm in diameter), was tempered with both shell and grog and is Bronze Age in date. This is consistent with the other contexts especially [100] and [119] both of which were shell tempered (as demonstrated by voids giving the sherds a 'corky' appearance) and included base fragments from a large bucket urn and

2 sherds with slight finger-tip impressions. Contexts [100] also contained 1 flint tempered piece. Similarly context [122] also contained 1 thick walled and heavily shell tempered piece and 1 flint tempered piece. The two sherds from context [116] were also characterised by the abundant use of shell temper. The thin walled fragments from [116] and [119] are probably more characteristic of Later Bronze Age types suggesting that this small assemblage belongs to the later half of the 2nd millennium BC.

The 5 thin walled fragments from [260] were slightly different in appearance from the rest, comprising an hard flint tempered fabric, and could belong to the beginning of the 1st millennium BC (LBA/EIA).

APPENDIX 3: THE WORKED FLINT (Chantal Conneller)

A small collection of lithic material, consisting of 17 pieces of worked flint and 15 burnt natural fragments of flint, were recovered during the Waterbeach evaluation. As befits a small assemblage, collected from a wide area, the material is of mixed date, attesting to a number of ephemeral visits to the area by prehistoric peoples. The earliest piece recovered is likely to be a large blade, 8.5cm in length, which was recovered from the surface of Graves Field. This material has a faceted butt, which is unusual amongst Mesolithic and Neolithic pieces, but more characteristic of 'Long Blade' technology, dating to c.10,000 years ago. No other lithic material was noted on the surface of this field and this piece appears curiously isolated. It is likely to have been curated as a finished piece and lost or abandoned by its owner. The high frequency of smaller blades in the assemblage as a whole suggests a Mesolithic/ Neolithic presence in the area. These include pieces with retouch or use and a plunging blade. The plunging blade is the product of a technique designed to maintain the productive life of a blade-core and is indicative of a high level of technological skill. Also present is a later prehistoric flake-based technology. Dorsal scars reveal that these pieces were produced on multi-platform cores. The raw material utilized in this collection is a black, or more rarely, a honey coloured flint. Cortex remaining on the black flint indicates it was obtained as a gravel source.

Category	No.
Flake	9
Blade	6
Retouched Blade	1
Retouched Flake	1
<i>Worked Flint</i>	<i>17</i>
<i>Total</i>	
<i>Burnt Flint</i>	<i>15</i>

APPENDIX 4: THE FAUNAL REMAINS (A. Clarke)

Quantity and Provenance of Material

A small assemblage of animal bone was recovered through a combination of excavation by hand and sieving of bulk soil samples. A total of 341 bone fragments were recovered. The site had four areas of excavation of which only two (Trenches 7 – 34 & Trenches 39 – 53) are considered in this assessment report. This is due to the fact that Trenches 1 – 6 produced no bone at all and in Trenches 35 – 38 only a single fragment of dog mandible was recovered.

Method of Analysis

Due to the small size of the assemblage it was possible for all the bone material to be inspected. This was carried out in order to identify the species present within the assemblage and to highlight any patterns evident in element distribution, age profiles, butchery and spatial distribution. All bone was identified using Schmid (1972) and the Cambridge archaeological Unit reference collection. Distinction between sheep and goat was not undertaken at this time and accordingly all such bone remains are quoted as ovicaprid. Age estimation was made according to Grant (1982).

Condition of Material

The condition of the bone within the assemblage is varied, but on the whole it is a fair state of preservation. However it is clear, especially from the midden area that much of the bone has undergone a high degree of processing rendering the majority of the assemblage unidentifiable. Further to this, much of the bone displays evidence of weathering or has concretions of iron rich sediment obscuring the surface. This has limited the possibility to retrieve mensural and ageing data. This latter point is compounded by the fact that many of the bones show evidence of having been gnawed. The combination of the preservational environment and the bone gnawing has no doubt resulted in a taphonomic bias in the sample. This is re-enforced by the conspicuous absence of vertebrae, ribs, phalanges and immature bone within the assemblage.

Late Bronze Age: Trenches 7 – 34

The Late Bronze Age assemblage is very small and not in a good state of preservation due to the effects of weathering and heavy concretions of iron rich sediments. This has resulted in 94.6% of the bone being unidentifiable. This has severely limited the amount of interpretative data that can be retrieved from the Late Bronze Age faunal remains. As table 1 shows, it was possible to identify the presence of cow, pig and Red deer on site, but without a larger and more well preserved assemblage it is impossible to say anything more.

Species	NISP
Cattle	3
Pig	1
Red deer	2
Unidentifiable	107
Total	113

Table 1: Late Bronze Age. Number of identified specimens by species (NISP).

Roman: Trenches 39 – 53

The assemblage from the Roman area of excavation is in a much better state of preservation than the remains from the Late Bronze Age. However the assemblage is again of a small size and 81.9% is unidentifiable. But having said that, there is still some interpretative information that can be gleaned from such a paltry data set.

The faunal remains were recovered from an area of the site believed to represent a midden and it would seem that the assemblage confirms this interpretation. As Table 2 shows, the domestic food animals of cattle and ovicaprids dominate the Roman assemblage, the remains of which originate from most parts of the skeleton but is dominated by distal limb bones and to a lesser extent, large meat bearing elements such as the femur and pelvis. Furthermore many of these skeletal elements display cut marks, which together with the elements present suggest that the assemblage represents the waste from primary and secondary butchery.

Species	NISP
Cattle	21
Ovicaprid	14
Horse	4
Dog	1
Bird	1
Unidentifiable	186
Total	227

Table 2: Romano-British. Number of identified specimens by species (NISP).

The unidentifiable remainder of the assemblage also contributes to the above interpretation. As stated above the vast majority of the bone is unidentifiable, but it seems that in this case the preservational environment is not the cause of this situation. The bone is fairly well preserved but has been broken up a great deal and displays cut marks. Added to this much of the unidentifiable bone shows evidence of gnawing by animals. This evidence combined with that from the identifiable remains indicate that the assemblage results from the disposal of butchery waste that has later been exploited by scavenging animals.

APPENDIX 5: ENVIRONMENTAL ASSESSMENT (Rachel Ballantyne)

The five samples show fairly good preservation of plant remains, particularly of waterlogged contexts in deeper features. There are very occasionally also good mollusc remains present. Later Bronze Age contexts suggest a relatively open environment with disturbed soils, but provide little direct evidence of human activity. The potentially later features within 'IWM Park' field contain good charred remains that include numerous fenland-associated plant taxa.

Methodology

Five bulk samples were submitted for assessment, two from 'IWM Park' field and three from 'Undertakers' field approximately 1km to the north. Two waterlogged samples were sub-sampled and wet-sieved over a 300µm mesh; the collected residue was subsequently washed through a stack of 2mm, 1mm, 500µm and 300µm sieves before scanning. All charred samples were processed using bucket-flotation, with the flots collected by a 300µm sieve, and the heavy residue washed over a 1mm mesh. The flots and residues were both dried then scanned; heavy residue greater than 4mm was sorted by eye, with smaller components sorted using a low-power microscope. Plant identifications were made using the reference collection of the Pitt-Rivers Laboratory, Department of Archaeology, University of Cambridge; all nomenclature follows Stace (1997). Mollusc shells were identified following Pflieger (1998).

Preservation

As noted, both waterlogged and charred plant macroremains are present within the samples. The preservation types appear fairly discrete; there are no clearly waterlogged remains present in the charred contexts and vice-versa. One charred context, pit fill [122], includes large amounts of concreted iron (III) oxide, and smaller calcium salt crystals which suggests that water levels have fluctuated within this feature. Whilst waterlogged plant material may once have been present, desiccation would have occurred during periods of lower water table.

Waterlogged remains

Both waterlogged contexts derive from 'Undertakers' field, of which pit fill [136] displays much better preservation than pit fill [105] and this appears linked to the greater depth of [136] relative to the water-table. Pit fill [122] also derives from this field, and it seems likely that the depth of negative features will dictate whether any further waterlogged remains are recovered

from this area. Within the richer context [136], preservation is extremely good. Not only is there a diverse range of plant macroremains (30+ taxa), but also a number of entomological remains that could be further examined.

Charred remains

In contrast to the waterlogged contexts, more limited charred plant material has been preserved both in terms of quality and quantity. Charcoal dominates all three samples relative to other plant components, and distortion or fragmentation have often affected charred seed remains.

Mollusc Remains

Two samples, pit fill [122] and cremation [275], contain shells of both freshwater and land snails. Only [122] exhibits large enough quantities to be statistically significant. The contextual specificity of mollusc remains suggests that their future examination can be addressed on an *ad hoc* basis within bulk samples.

Results and discussion

Late Bronze Age pit fill [105], 'Undertakers' field.

There are low amounts of waterlogged plants, mainly of unidentifiable root and stem material. The most frequent seeds are of common/spear-leaved orache (*Atriplex patula/prostrata*) and chickweed (*Stellaria media*), both taxa that occur in disturbed, usually open conditions. Other taxa in the sample are each represented by one or two seeds and include long-headed poppy (*Papaver dubium*), blinks (*Montia fontana* ssp. *chondrosperma*), knotgrass (*Polygonum aviculare*), black bindweed (*Fallopia convolvulus*) and bittersweet (*Solanum dulcamara*). Due to the very low numbers of seeds of each taxon it is difficult to infer much about the local environment. Poppy, knotgrass and black bindweed are often found on disturbed land, both blinks and bittersweet are associated with damp soils, and with the exception of bittersweet all these taxa usually occur in open places – which corresponds well to the better-represented orache and chickweed within the sample.

The waterlogged flora indicate an open area with disturbed soils, and this was probably an environment directly linked to the human activity that the archaeology represents. However the complete lack of charred plant debris is interesting, since it suggests that no burning activity occurred nearby during the formation of context [105].

Late Bronze Age pit fills [122] and [136], 'Undertakers' field.

Two contexts were sampled within pit cut [120], a basal waterlogged fill [136] and an upper dump of charcoal [122]. Within the waterlogged fill, all the taxa represented in pit [105] are again present, but preservation has been much better and there is a far wider range of species. There are particularly large numbers of small-seeded docks (*Rumex sanguineus/obtusifolius/conglomeratus*)

characteristic of disturbed soils, and also of parsley-piert (*Aphanes arvensis*) which is common on open cultivated or disturbed land with well-drained soils. Whilst some of the other species present are associated with damper conditions, such as buttercups (*Ranunculus* spp.), cinquefoil (*Potentilla* sp.), osier (*Salix* c.f. *viminalis*) and rushes (*Juncus* spp.), the commonest taxa within the sample are mostly of drier soils. Both nettles (*Urtica dioica*) and fat-hen (*Chenopodium album*) are found on disturbed, nutrient rich soils, which again ties in with the interpretation of context [105] of an open, disturbed environment.

There is slightly more evidence within this sample for some overgrown land compared to pit [105], with bramble seeds (*Rubus fruticosus* agg.) and those of bugle (*Ajuga reptans*), ground ivy (*Glechoma hederacea*) and bittersweet (*Solanum dulcamara*) present. However these taxa are all lesser components within the assemblage, and it seems that open conditions did dominate the surrounding area.

The remains of ash (*Fraxinus excelsior*) and hawthorn (*Crateagus monogyna*) appear to be modern, due to their exceptional condition, and the occurrence of similar remains within the non-waterlogged and adjacent context [122].

In contrast to the waterlogged basal fill, upper fill [122] contains only charred remains, which are dominated by wood charcoal. The only two plant macro-remains identified are two cereal grains - one of a barley type, and the other of a wheat type. Neither grain has been well preserved enough to allow more detailed identification.

The limited extent of charcoal fragmentation, and its high concentration strongly suggests that this is a 'dump' of material, possibly from a hearth or food-processing context due to the presence of cereal grain.

Whilst lower [136] contained no mollusc remains, [122] is rich in them, with numerous shells of aquatic and land taxa. The actual range of species is quite limited, with many of a *Lymnaea* sp. and indeterminate Succineidae type, which are associated with stagnant water, and damp waterside vegetation respectively. Most of the land snails are *Vallonia* c.f. *pulchella*, which occurs in open damp areas, and *Trichia striolata*, which is found in damp, shaded places. None of the snail shells exhibit any burning, and identifying their source is difficult. They may represent a population within the pit, but if so, it is difficult to explain the complete lack of snails within basal fill [136].

Alternatively, perhaps these shells were collected up with the charcoal after a burning event, and represent material from a waterside or flooding context incorporated within the dumped charcoal. Large fragments of unburnt bone were present in the heavy residue of this sample, and it seems unlikely that solely the remains of a hearth are present, but more likely a collection of debris or 'refuse'.

Cremation [275], 'IWM Park' field.

The charred plant remains are characteristic of cremations from other Cambridgeshire sites, most notably Barleycroft (Evans & Knight 1998). In addition to well-preserved charcoal, there are numerous charred plant stem fragments, and tuberous roots that compare well to false oat grass (*Arrhenatherum elatius*). The charred vegetative material suggests that a turf-cut or built structure may have been present during the cremation itself. It is usually rare for roots (other than those collected as a resource) to be exposed to charring conditions since the earth protects them. Small fragments of either fired clay or soil are present in the heavy residue, which possibly also points towards a turf/soil construction.

Very few charred seeds are present. One of blinks (*Montia fontana* ssp. *chondrosperma*) suggests damp grassland, and those of heath-grass (*Danthonia decumbens*) represent a species found in old grassland in the fens today (Perring *et al.* 1964). Some of the heath-grass seeds are fused together from charring, and this suggests that the entire ear was initially present. The best-represented species is the great fen sedge (*Cladium mariscus*), which is characteristic of true fen and peaty soils, and strongly suggests that fenland was present at the time of cremation.

'Midden deposit' ditch fill [283], 'IWM Park' field.

All charred components within this context appear fairly small. There is an extremely high level of charcoal fragmentation, with much of it reduced to a 'dust' that washed away during processing. Of the charred plant remains there is a low quantity of cereal chaff, and one grain. The chaff is of wheat glume-bases, in one case identifiable to spelt, and in one other comparable to emmer. Emmer wheat was a common cereal crop throughout prehistory, and in places into the Roman period; spelt wheat became the dominant cereal crop within later Iron Age and Roman Britain (Greig 1991). The majority of seed remains belong to two plant groups – legumes and sedges. The legumes are mainly of small-seeded clovers (*Trifolium* spp.), which grow in a variety of usually open grassy places and tend to have an advantage on soils with poorer nutrients due to their nitrogen fixing ability. These could be weeds of cultivation, but it is difficult to explain why other weed seeds, or cereal components were not also exposed to charring at the same time.

The range of Sedge Family taxa present seems unlikely to represent arable weeds, although it is possible that some species such as common spike-rush (*Eleocharis palustris*) could perhaps be expected on the edges of damp fields (Jones 1978). In addition to the common spike-rush, there are also seeds of needle spike-rush (*Eleocharis acicularis*), bristle club-rush (*Isolepis setacea*), and a flat, elongate-seeded sedge (*Carex* sp.). Single seeds of small reed (*Calamagrostis* sp.) that grows in damp woods and fens, and meadow-grass (*Poa* sp.), which is found in various grassland types, are also present.

Interpreting the composition of this context is rather difficult, given the limited amount of charred remains, and their apparent lack of association with any form of cereal processing. The context is also relatively 'clean' in

terms of other ecofactual or artefactual material. Occasional amphibian and fish bones accompanied by fish-scale represent the only other remains present. Whilst fish bones may be associated with consumption amphibian remains usually are not, and so it seems possible that all these small bones may be derived from the local environment, rather than a collected resource.

Perhaps the charred plant remains represent a collected fenland resource such as sedge or more general waterside vegetation, which became exposed to charring conditions. It seems curious that no parts of these plants other than the seeds have been preserved by charring, unless some of the extremely small charcoal component noted was derived from this (i.e. fragmented leaves).

Conclusions

The five samples contain a good range of both waterlogged and charred plant remains, which suggests that environmental bulk samples should form an important component within any future excavation.

Within 'Undertakers' field there is good waterlogged preservation in deeper features, such as pits [120] and [084]. The remains within the two later Bronze Age pits sampled here are generally comparable, and indicate an open, disturbed soil environment. However with the exception of one waterlogged wheat glume base within fill [136], there is very little debris from human activity in either waterlogged context, other than the cleared (open) vegetation. Perhaps any activity was periodic or mobile within the area so that no charcoal was present during the formation of these waterlogged contexts.

The one charred context sampled here contains mainly charcoal with a couple of cereal grains, showing that there was human activity somewhere nearby. From the concentration and lack of fragmentation of charcoal, this appears to be a placed deposit rather than accumulated surface debris.

Within 'TWM Park' only charred plant remains have been recovered, although it remains possible that waterlogged material may be present in deeper features. Both the cremation [275] and ditch fill [283] sampled include seeds of typical fenland taxa which suggests these remains may be later than the later Bronze Age features in 'Undertakers' field.

Future work should:

- Ensure sampling of any further waterlogged contexts within either field, as a means to characterise the local environment further. These contexts may also contain further entomological remains which could be assessed for their suitability for study .
- Continue to sample for charred macroremains in both clearly charred and apparently uncharred contexts. With the exception of the one dumped

charcoal context [122] in 'Undertakers' no evidence was present for the accumulation of residual charred material within either waterlogged context in this field. A source of charred remains or locus of such activity within the later Bronze Age does not appear to have been sampled so far. In 'TWM Park' field there appears good charred remains of possible later Iron Age/Roman date, which represent mainly fenland plant taxa, and in the case of [275] are characteristic of a cremation. The dark, possibly 'midden' deposit [283] still remains difficult to interpret, but will perhaps become clearer through more full-scale excavation. Other samples could clarify just how homogenous this context is compositionally, and also compare the remains to others in the area to establish whether it is 'unique' or whether some charred components repeatedly occur in other contexts too.

- Significant amounts of snails are only present within one context [122] here, but may prove to be abundant in some other contexts. The extent of their presence within the assemblage can be addressed through the bulk samples, which should be collected for charred and waterlogged plant macroremains.
- One column sample for pollen analysis was also collected from pit [120], but it is unlikely to be examined at this stage of evaluation. The presence of deep, well stratified pit features containing waterlogged material suggests that the potential for pollen recovery at Waterbeach is good. Pollen analysis would provide a synopsis of vegetation patterns over a wider area, contrasting to the more local information discussed here from the waterlogged plant macro-remains. Well stratified, and if possible waterlogged, contexts should be targetted for column sampling during any further excavation - with a view towards clarification of the environmental context of the site through time.

Results Table Key: '+++' >50 items, '++' 10-50 items, '+' <10 items, '-' 1 or 2 items

'w' waterlogged, '?w' possibly waterlogged/modern
'u' uncharred in a charred sample - modern

Results Table: summary of all sample contents

Sample number		<1>	<2>	<3>	<5>	<6>
Context		[105]	[122]	[136]	[275]	[283]
Feature Type		pit	pit	pit	?cremation	ditch
Description			mid-fill	basal fill		'middle' layer
Phase		I.B. A	I.B. A	I.B. A	?Roman	?Roman
Field location		U'takers	U'takers	U'takers	IWM Park	IWM Park
Sample volume/ litres		0.5	8	1	6	2
CEREAL GRAIN						
<i>Hordeum</i> sp. grain	barley		-			
<i>Triticum</i> sp. grain	wheat		-			
cereal grain indet.						-
CEREAL CHAFF						
<i>Triticum spelta</i> glume base	spelt wheat					-
<i>Triticum c.f. dicoccum</i> glume base	emmer wheat			- W		-
<i>Triticum spelta/dicoccum</i> glume base	spelt/emmer					-
cereal indet. culm node	straw joint					-
WILD TAXA						
large <i>Ranunculus</i> spp.	large-seeded buttercups	- W		++ W		
<i>Papaver dubium</i>	long-headed poppy	- W		++ W		
<i>Urtica dioica</i>	stinging nettle			++ W		
<i>Betula pendula</i>	silver birch			- W		
<i>Chenopodium album</i>	fal-hen			++ W		
small <i>Chenopodium</i> sp. with perianth	goosefoot			++ ?W		
<i>Atriplex patula/prostrata</i>	common/spear-leaved orache	+ W		+ W		
<i>Monia fontana</i> ssp. <i>chondrosperma</i>	blinks	- W		- W	-	
<i>Stellaria media</i>	chickweed	+ W		++ W		
small <i>Stellaria</i> sp.	small-seeded chickweed			+ W		
<i>Sagina</i> sp.	pearwort			- W		
<i>Paspalum maculosum</i>	redshank			++ ?W		-
<i>Polygonum aviculare</i>	knotgrass	- W		++ W		
<i>Fallopia convolvulus</i>	bindweed	- W				
<i>Rumex sanguineus/conglomeratus/obtusifolius</i>	small-seeded dock			+++ W		
<i>Rumex</i> sp.	dock			- W		
<i>Salix c.f. viminalis</i>	osier			- W		
<i>Rubus fruticosus</i> agg.	bramble	- W		++ W		
<i>Potentilla</i> sp.	cinquefoil			- W		
<i>Aphanes arvensis</i>	parsley-piert			+++ W		
<i>Crataegus monogyna</i> flower-head	hawthorn flower-head		- U	- ?W		
<i>Crataegus monogyna</i> leaf	hawthorn leaf		- U	- ?W		
<i>Crataegus monogyna</i> berry	hawthorn berry	- W		- ?W		
medium <i>Vicia/Lathyrus</i> sp. (2-4mm)	velch/wild pea					-
large <i>Trifolium</i> sp. (>2mm)	large-seeded clover					-
small <i>Trifolium</i> sp. (<1mm)	small-seeded clover					++
<i>Epiobium</i> sp.	willowherb			- W		
<i>Solanum dulcamara</i>	bittersweet	- W		+ W		
<i>Lamium album/purpureum</i>	white/red dead-nettle			- W		
<i>Galeopsis tetrahit</i>	common hemp-nettle			+ W		
<i>Ajuga reptans</i>	bugle			- W		
<i>Glechoma hederacea</i>	ground-ivy			- W		
<i>Prunella vulgaris</i>	selfheal			+ W		
Lamiaceae indet.	Mint Family			- W		
<i>Fraxinus excelsior</i>	ash		- U	- ?W		
<i>Galium c.f. uliginosum</i>	fen bedstraw					-
<i>Carduus/Cirsium</i> sp.	thistle			- W		
<i>Juncus</i> sp.	rushes			++ W		
<i>Eleocharis palustris</i>	common spike-rush					+
<i>Eleocharis acicularis</i>	needle spike-rush					-
<i>Isolapis setacea</i>	bristle club-rush					-
<i>Cladium mariscus</i>	great fen sedge				++	
elongate flat <i>Carex</i> sp.	sedge					+
<i>Poa</i> sp.	meadow-grass					-
<i>Calamagrostis</i> sp.	small-reed					-
c.f. <i>Danthonia decumbens</i>	heath-grass				+ (detached)	
Poaceae culm node	grass stem joint					-
Poaceae culm fragment	grass stem					+
small Poaceae indet.	small-seeded grass			+		
small twigs		+ W				
roots		++ ?W				
tuber frags c.f. <i>Arrhenatherum elatius</i>	root tubers c.f. false oat-grass				+++	
stem fragments					++	
CHARCOAL						
small charcoal (<2mm)			+++		+++	+++
med. charcoal (2-4mm)			+++		+++	++
large charcoal (>4mm)			++		+	+
NON-BOTANICAL REMAINS						
?burnt soil					++	
burnt bone fragments					+	
fish scales						+
anuran bones	amphibian bones					+
insect larva				-		
beetle remains				++		
<i>Daphne</i> sp. eggs	water flea eggs			+		
MOLLUSCS						
<i>Lymnaea</i> sp.	stagnant and slow water		+++			
small Planorbidae indet.	gen. overgrown still water			-		
Succineidae indet.	damp, waterside vegetation		++			
<i>Cochlicopa</i> sp.	catholic		-			
<i>Columnella</i> c.f. <i>edentula</i>	catholic, usually damp places			-		
<i>Vertigo</i> c.f. <i>pygmaea</i>	dry, grassy places, occ. marshes		+			
<i>Vallonia</i> c.f. <i>putchelta</i>	open, damp habitats		++			
<i>Vallonia</i> sp.					+	
<i>Trichia striolata</i> group	damp, shaded places		++			
HEAVY RESIDUE (>1mm)						
charcoal			+++		++	+
burnt bone fragments			-			-
bone			+		+++	+
anuran bones	amphibian bones					-

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