

Trinity College / NAPP Phase I

Cambridge Science Park, Cambridgeshire

An Archaeological Evaluation



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CONTENTS

Introduction.....	1
Site Location and Description.....	1
Archaeological and Historical Background.....	1
Methodology	3
Excavation Results	3
<i>Trench 1</i>	<i>5</i>
<i>Trench 2</i>	<i>5</i>
<i>Trench 3</i>	<i>5</i>
<i>Trench 4, 5 and 6</i>	<i>7</i>
<i>Trench 7</i>	<i>7</i>
<i>Trench 8</i>	<i>7</i>
<i>Trench 9</i>	<i>7</i>
<i>Trench 10</i>	<i>8</i>
<i>Trench 11</i>	<i>8</i>
Discussion.....	11
Acknowledgements	12
Bibliography	13
Appendices.....	14
<i>Specialist Reports</i>	<i>14</i>
<i>Roman Pottery</i>	<i>14</i>
<i>Flint report.....</i>	<i>14</i>
<i>Later Prehistoric Pottery</i>	<i>14</i>
<i>Faunal remains</i>	<i>14</i>

An archaeological evaluation was undertaken by a team from Cambridge Archaeological Unit on behalf of Trinity (N) Ltd, on a c. 2.5ha site, centred TL 466 620, adjacent to the A14 and A10 on the Cambridge Science Park. The evaluation revealed a single pit of probable Late Bronze Age/Early Iron Age date, a small Romano-British ditch, a single posthole and pit of uncertain date, and the remnants of seven furrows. In addition, demolished construction material and fragments of armoured vehicle engine and body components relating to former wartime facilities were uncovered. The results of the evaluation provide limited evidence of later prehistoric and Romano-British activity with extensive disturbance from a fairly modern presence.

Introduction

An archaeological evaluation was undertaken on the Proposed Development Area (PDA), an area of c. 2.5ha, centred on TL 466 620, adjacent to the A14 and A10 on the Cambridge Science Park. Eleven 2m wide trenches of varying lengths ranging from 23m to 76m were excavated to assess the nature and survival of archaeological deposits, providing a 4% sample of the total PDA.

Site Location and Description

The site lies approximately 4.5 km to the northeast of the centre of Cambridge on the Cambridge Science Park, (Figure 1). The underlying geology is Gault (a mixture of clay and river terrace gravels) and the site lies at approximately 7-10m OD. It is bounded on its southern, eastern and western sides by light industrial and commercial units and to the north by the A10 slip road from Milton Road onto the A14.

Towards the northern end of the PDA was an area of raised ground with a linear north-eastern south-western aligned earthen berm, extending beyond the southern boundary of the site. Building rubble and concrete fragments littered the surface towards the eastern part of the PDA, as well as exposed concrete standings. Evidence of rabbit activity was also prevalent throughout the PDA, in addition to recently felled trees and other shrubbery.

Archaeological and Historical Background

A full, detailed report on the archaeological and historical background of the PDA can be found in a desk-based assessment produced by Grahame Appleby to which the reader is directed (Appleby, 2006). In summary, the PDA is located within a landscape of archaeological activity ranging from late Neolithic through to the Romano-British period. A landscape that was revealed during an investigation carried out on the Milton landfill site from 1990 to 1999, through a programme of fieldwalking, evaluations and excavations.

Evidence of landscape occupation during the late Neolithic and Bronze Age periods comprised structural features and the presence of pottery, notably with structures dating to Middle Bronze Age. During the Iron Age there were areas of extensive occupation comprising enclosures, buildings and a possible timber mortuary enclosure containing cremations. Five phases of Romano-British settlement activity were recorded within the landfill site and adjacent areas that included the likely presence of a villa estate with associated features and a track-way. A Romano-British barrow was also excavated, producing inhumations and cremations (Appleby, 2006).

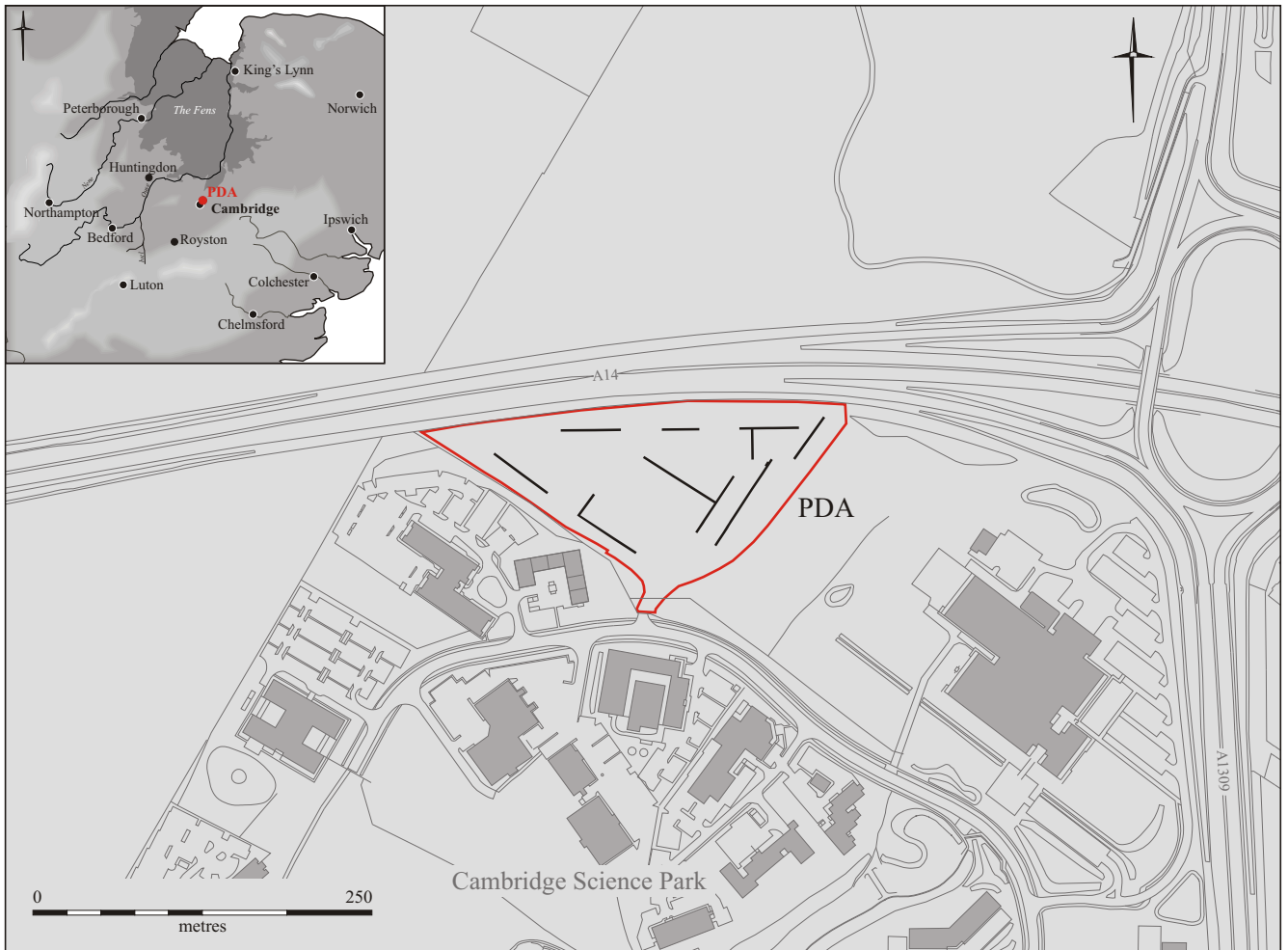


Figure 1. Trench location plan

Activity relating to the medieval and post medieval periods was confined to traces of ridge and furrow. More recently, a survey during the 1990's, the Defence of Britain Project, provided information regarding the construction of a pill box and an anti-tank ditch, either just before or at the outbreak of World War Two, located to the south of the PDA (Osborne, 2002). On the site itself, aerial photographs have shown that this location was used for armoured tank storage and a servicing depot with associated facilities. This was later abandoned after 1950 and the structures were gradually demolished (Appleby, 2006).

Methodology

The evaluation trenches were located to provide coverage across the extent of the PDA (Figure 2). The precise locations of the trenches were adjusted according to the position of the services and 'habitation areas'. Eleven 2m wide trenches of varying lengths ranging from 23m to 76m were laid out totalling 488m (Table 1).

The trenches were excavated by a 360° tracked excavator with a toothless ditching bucket under the supervision of an experienced archaeologist. All features were planned at 1:50, with sections drawn at 1:10. Archaeological features were assigned a unique number and each stratigraphically distinct episode was recorded with a unique context number. The site was surveyed into the Ordnance Survey Grid and Ordnance Datum by means of a RTK GPS unit.

Excavation Results

Both topsoil and subsoil, which consisted of mid brown clayey silt, was found throughout the PDA, with areas of disturbance in the eastern part of the site due to the presence of trees and other undergrowth. Towards the northern boundary, there was a build up of several manually deposited layers, including demolition rubble, consisting of fragments of concrete, brick and numerous armoured vehicle components. These layers were deposited directly on top of the pre-existing topsoil and subsoil, thus preserving possible archaeological features underneath.

Trench No.	Length	Orientation	Depth (max)	Depth of Demolition (from surface)	Depth of subsoil	Depth of Buried subsoil
1	37m	NE-SW	0.89m	0.42m	0.25–0.35m	NA
2	44m	E-W	1.27m	0.22m	0.20m	0.20–0.26m
3	30m	E-W	1.22m	0.19m	NA	0.09–0.30m
4	45m	E-W	0.42m	NA	0.16–0.26m	NA
5	50m	NW-SE	0.54m	NA	0.28–0.30m	NA
6	52m	NW-SE	0.52m	NA	0.22–0.29m	NA
7	20m	NE-SW	0.51m	NA	0.19–0.28m	NA
8	50m	NW-SE	0.70m	0.43m	0.10–0.14m	NA
9	76m	NE-SW	0.81m	0.21m	0.12–0.21m	0.07–0.16m
10	62m	NW-SE	0.39m	NA	0.18–0.20m	NA
11	22m	N-S	1.11m	0.10m	NA	0.12–0.15m

Table 1 – Trench dimensions and alignments

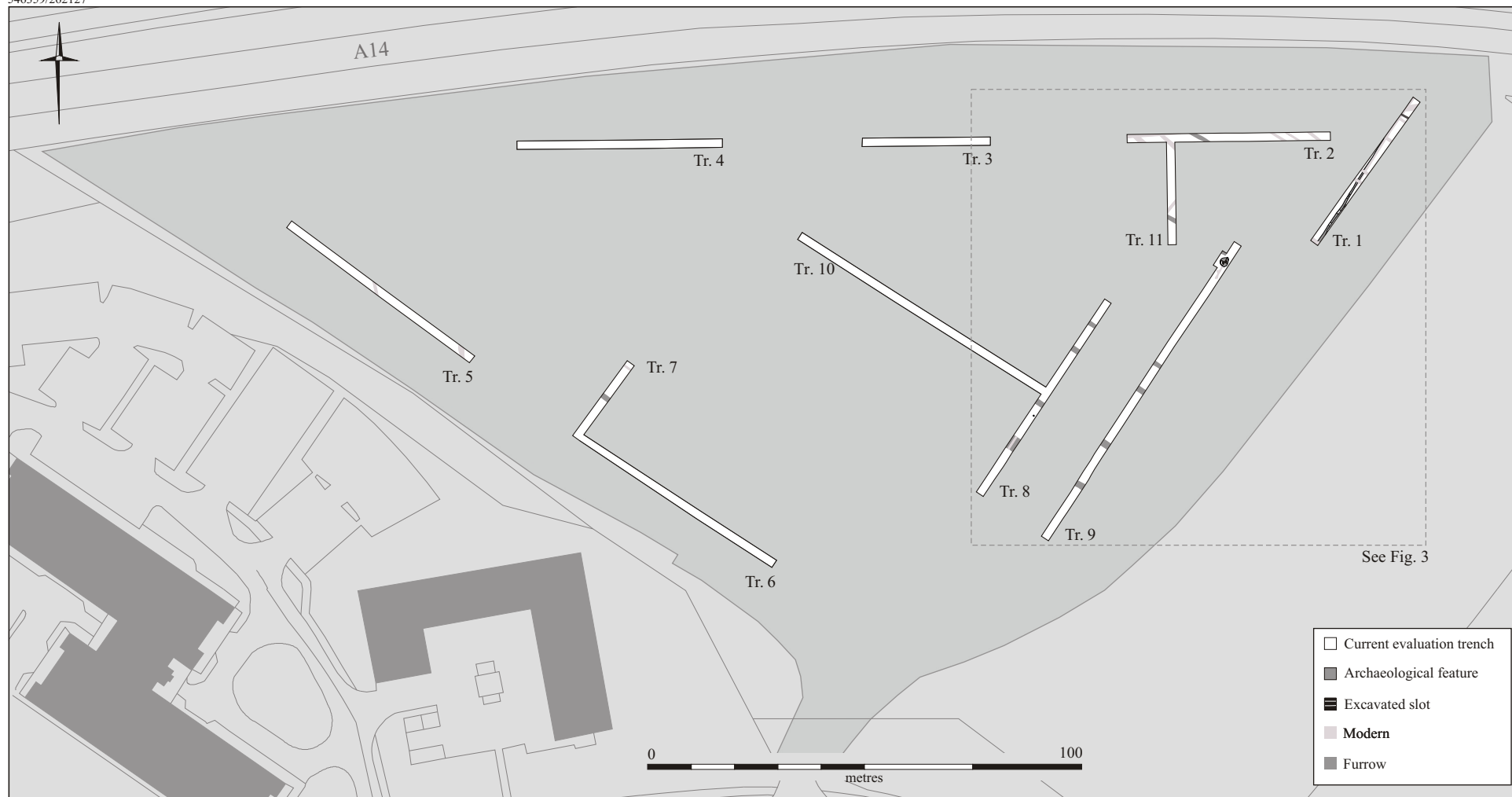


Figure 2. Trench location

Trench 1

A series of fairly modern amenity pipe trenches were located throughout Trench 1; whilst the southern end of the trench was not extended due to modern disturbance and unstable debris. A concrete foundation on an east-west alignment with at least two courses of brick and mortar on top (F.014) located at the northern end of the trench, indicates the presence of a structure, possibly relating to the depot facilities.

Two archaeological features were uncovered in this trench; a single ditch/gully, (F.003) on a northeast-southwest alignment and an adjacent small shallow pit, (F.004). The stratigraphic relationship between these two features is uncertain, although pottery evidence suggests that the pit is Late Bronze Age/Early Iron Age, whereas the gully can tentatively be dated to the Romano-British period. Three flints recovered from F.003 were chronologically non-diagnostic.

F.003 – Gully (NE-SW). Fill [005], soft mid grey brown clayey silt with occasional gravel inclusions. Cut [006], moderately steep slightly concave sides, flattish base. Maximum width 0.43m, maximum depth 0.16m.

F.004 – Pit. Fill [007], soft mid grey clayey silt with occasional reddish mottling, occasional flecks of charcoal and gravel inclusions. Cut [008], oval in plan, straight near vertical sides and round base. Maximum width 0.47, maximum depth 0.10m.

F.014 – Wall and concrete foundation. Fill [043], loose to firm dark brown sandy silt with occasional gravel inclusions and fragments of brick and mortar. Bricks [047], 2-3 courses of red brick and grey mortar representing lower wall from a construction. Concrete platform [048], foundation for construction wall.

Trench 2

Trench 2 contained a number of modern pipe amenities as well as modern disturbance relating to the construction of the A14. A single furrow, (F.005) was also identified. However, above these was a layer of demolition and various fragments of metal, both probably relating to the tank depot.

F.005 – Furrow (NW-SE). Fill [011], soft mid brown clayey silt with occasional gravel inclusions. Cut [012] very shallow slightly concave sides with flat base. Maximum width 1.00m, maximum depth 0.11m.

Trench 3

No archaeological features were identified in Trench 3. However, there were several layers of demolition material and armoured vehicle components derived from the wartime facilities. These included engine mechanisms such as drive shafts, gear boxes, and various other body apparatus. Evidence of metal structural frameworks, and broken up concrete and bricks were also recovered, suggesting that a possible building in this area, used for either storage or servicing the vehicles was demolished with associated material.

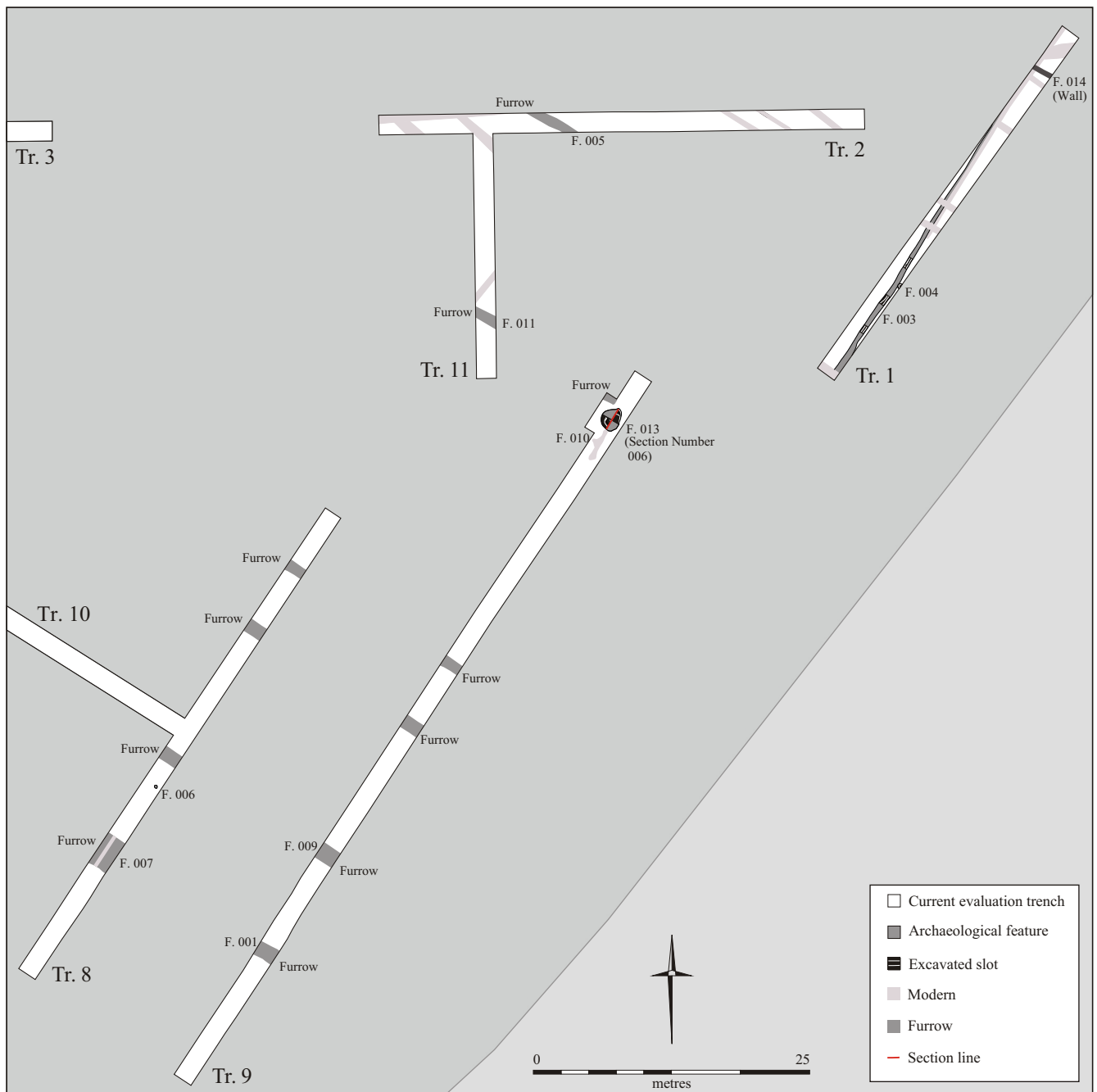


Figure 3. Trenches 1, 2/11, and 9

Modern gravel deposit [050] overlying several layers of fragmented concrete and brick [051-057]. Layer [060] was mid blue green silty/loam clay with occasional gravel inclusions and red mottling (probably derived from reed activity). This area was approximately 4m wide and probably indicates a waterlogged area or small stream.

Trench 4, 5 and 6

No archaeological features were identified in Trenches 4, 5 or 6. However, in Trench 5 a single concrete sleeper (or cross-tie) was recovered at the western end, providing supporting evidence for the presence of a railway at the Depot, as suggested from aerial photographs.

Trench 7

A single furrow (F.002) was identified in Trench 7 on a northwest-southeast alignment.

F.002 – Furrow (NW-SE). Fill [003], soft mid brown clayey silt with occasional gravel inclusions. Cut [004] very shallow slightly concave sides with flat base. Maximum width 1.00m, maximum depth 0.12m.

Trench 8

The natural overburden was comparatively shallow (0.33 m) towards the southern end of Trench 8, but deeper at the northern end (0.70 m), most likely due to material that built up when the depot was demolished. A possible, single shallow posthole (F.006) with no associated features was also exposed in the trench, in addition to four furrows on a northwest-southeast alignment. Trench 10 is associated with Trench 8, see below.

F.006 – Posthole. Fill [017], mid brown grey silty clay with occasional gravel inclusions. Cut [018] circular in plan, steep concave sides, round base. Maximum width 0.24, maximum depth 0.12m.

F.007 – Furrow (NW-SE). Fill [019], soft mid brown clayey silt with occasional gravel inclusions, occasional fragments of coal. Cut [020] shallow slightly concave sides with flat base. Maximum width 0.90m, maximum depth 0.16m.

F.008 – Ploughmark (NW-SE). Fill [021], soft mid brown clayey silt with occasional gravel inclusions, occasional fragments of modern brick. Cut [022] shallow slightly concave sides with flat base. Maximum width 0.70m, maximum depth 0.15m.

Trench 9

Five furrows were exposed in Trench 9, on the same alignment as the furrows in Trench 8; two of the furrows in Trench 9 were excavated and recorded. The overburden profiles of Trenches 8 and 9 were also comparable. A single sub-oval pit (Figures 4 & 7) was uncovered towards the northern end of Trench 9; the trench was consequently widened at this point to expose the full extent of the pit.

The sides of the pit were fairly steep with a flattish base with a band of charcoal towards the top of the secondary fill [038]. Unfortunately, no chronologically diagnostic artefacts were recovered; the pit yielded a fragment of unidentifiable bone and a secondary flake that could potentially be Neolithic. Adjacent to the pit was a disturbance which probably relates to natural infill.

F.001 – Furrow (NW-SE). Fill [001], soft mid brown clayey silt with occasional gravel inclusions. Cut [002] very shallow slightly concave sides with flat base. Maximum width 1.40m, maximum depth 0.10m.

F.009 – Furrow (NW-SE). Fill [023], soft mid brown clayey silt with occasional gravel inclusions, occasional coal and clinker inclusions. Cut [024] very shallow slightly concave sides with slightly round base. Maximum width 1.00m, maximum depth 0.08m.

F.013 – Pit. Fill [037], firm orange/brown grey/brown silty sand with occasional gravel inclusions. Fill [038], Firm orange brown grey silty sand with frequent charcoal flecks, occasional patches of orange/red burnt clay and occasional gravel inclusions. Fill [039], firm grey brown silty clay with orange brown mottled silty sand with occasional gravel inclusions. Cut [040], sub oval in plan, steep sides, almost vertical on east side, more convex on south sides, sharp break of slope with flat base. Maximum width 2.07m, maximum depth 0.94m.

Trench 10

Trench 10 was located to investigate the central area of the PDA, and extended from approximately the centre of Trench 9 on a 90° angle for 68m. The western end of Trench 10 was halted when a wide berm of built up demolition material was encountered. At the eastern join with Trench 9, several pieces of metalwork were uncovered including a sprung seat, turrets with antenna outlets, a wheel, several large vehicle body components and tracks (Figures 5 & 6). Further investigation suggests that these parts came from a Tracked Landing Vehicle (LVT) either from a Mark-4 (US) or a Water Buffalo (British). No other archaeological features were identified in Trench 10.

F.011 – Furrow (NW-SE). Fill [033], firm light to mid brown clayey silt with occasional gravel inclusions. Cut [034] very shallow slightly concave sides with flat base. Maximum width 0.97m, maximum depth 0.09m.

Trench 11

Trench 11 was an additional spur from Trench 2, excavated at a 90° angle for 23 m. A single furrow was uncovered that aligned with the furrow in the northern end of Trench 9. No further archaeological features were identified in this trench.



Figure 4. NE facing photograph of F. 013



Figure 5. Photograph of part of LVT track



Figure 6. Photograph of turret with antenna socket

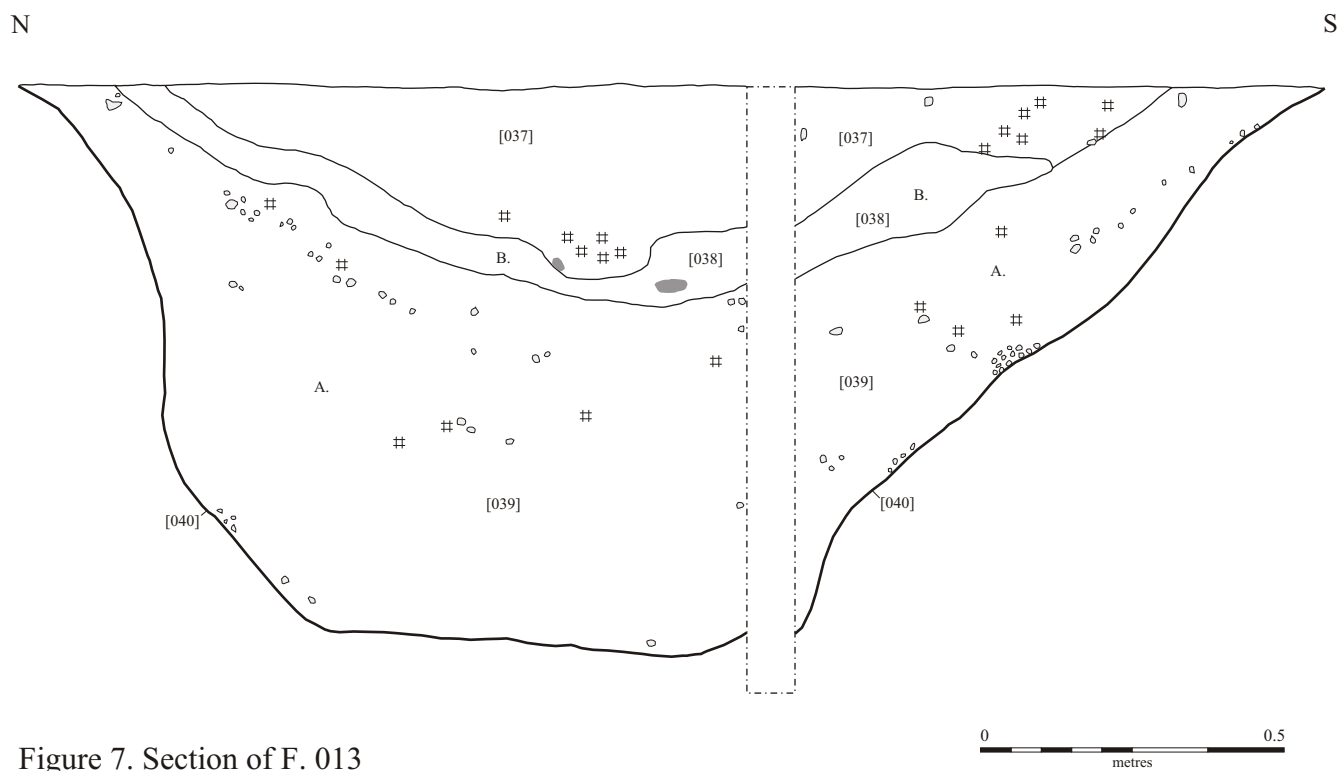


Figure 7. Section of F. 013

Discussion

The network of evaluation trenches machined across the PDA revealed features and material from different periods, ranging from the Late Bronze Age/Early Iron Age to the post-medieval period. The earliest features were focused in the north-eastern corner of the PDA in Trenches 1 and 9, whereas more recent remains in the form of furrows and demolished wartime facilities covered a larger area.

A pit (F.013) exposed in Trench 9 yielded a single potentially Neolithic flake, although the flint may not be contemporary with the pit, it could be residual, inadvertently incorporated into the potentially later feature. However, less ephemeral evidence for prehistoric activity was provided by pit (F.004) in Trench 1, which produced Late Bronze Age/Early Iron Age material. The pit was potentially associated with prehistoric activity that has previously been found in the surrounding area. Evidence of another phase of archaeological activity was provided by the presence of a small ditch (F.003) dating to the Romano-British period.

There is no definite evidence of medieval activity identified within the PDA, although there were traces of furrows encountered in trenches 2, 7, 8, 9 and 11. Furrows can provide information about past farming techniques and when they yield no artefacts, the form and layout of the furrows can supply an approximate date. The spacing of the furrows in the PDA and evidence from Chesterton Inclosure Map dated 1840 indicate that the furrows appear to be aligned parallel with the field boundaries from this time, dating the furrows to the post-medieval period.

The exposure of demolition material and associated artefacts towards the northern extremes of the PDA suggests that the area was used during wartime as a depot for the storage and maintenance of armoured vehicles. The various components uncovered suggest that these were probably from amphibious vehicles, used by both the US and the British armies during wartime, called Landing Vehicles Tracked (LVT), (Fletcher, *pers. comm* 2007). There are a number of varieties and types of these vehicles, although the parts that were recovered from this evaluation suggest that they were most likely to be from either LVT-MK4 or perhaps even the LVT-4 Water Buffalo widely used by the British. Their presence suggests that this depot could have been constructed and utilised in preparation of the D-Day landings. The vehicles could then have been transported to the coast via an extensive rail network. The depot could potentially have been used for the maintenance and upgrade of the vehicles prior to the amphibious invasion. At the end of the war, as there was no longer a need for the depot, it was demolished.

The evaluation exposed evidence of pre post-medieval activity clustered in the north-eastern corner of the PDA. The evidence was limited in both features and artefacts; however, it provides tentative dating for Late Bronze Age/Early Iron Age and Romano-British activity in the north-eastern corner of the site. Additionally, the uncovering of demolition material and associated artefacts from the wartime facilities provided interesting information from our more recent past.

Acknowledgements

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Appendices

Specialist Reports

Roman Pottery - Katie Anderson

Two sherds of Roman pottery were recovered from Feature 3. This comprised one non-diagnostic sandy greyware sherd (1g), from context [013], which could only be dated Romano-British. The second sherd was a base sherd from a reduced sandy ware vessel (10g). The exact form could not be identified but it is likely to be from a closed form. The fabric suggests a 2nd-3rd century AD date.

Flint report – Emma Beadsmoore

A total of five flints were recovered from the site (<24g). Pit F. 13, Trench 9, yielded a secondary flake, which was struck from a systematically reduced core and is potentially Neolithic. A comparable tertiary flake was collected as a stray find from the same trench. The remaining three flints were recovered from F. 3 and are chronologically non-diagnostic.

Later Prehistoric Pottery – Matt Brudenell

Seven sherds (10g) of Later Prehistoric pottery were recovered from Pit F.004. The material comprised small abraded body sherds, with a mean sherd weight of just 1.4g. As none of the sherds are diagnostic, the dating is based solely on the types of fabrics present. Fortunately, the type and modal size of fabric inclusions change over the course of the first millennium BC, allowing even the smallest assemblages to be assigned a basic date. Although this is by no means the most accurate form of dating, it does offer some indication of the period to which the ceramics belong. The pottery from F.004 is characterised by crushed and partly calcined flint and quartz sand. Flint tempered fabrics typify Late Bronze Age and Early Iron Age (c.1100BC-400BC) assemblages in Southern Cambridgeshire, suggesting the F.004 material falls within this bracket.

Faunal remains - C. Swaysland

One small bag of bone was recovered from context [037], F.013. The bone was highly fragmentary and in very poor condition; it could not be identified.