An Archaeological Evaluation at Grange Farm, Duxford, Cambridgeshire

Duncan Mackay

CAMBRIDGE ARCHAEOLOGICAL UNIT
UNIVERSITY OF CAMBRIDGE

INTRODUCTION

An archaeological field survey and trial trench evaluation was carried out by the Cambridge Archaeological Unit (CAU) ahead of a new water pipeline near Duxford, Cambridgeshire, between the 20th September and 8th October 2007. The pipeline, being installed by Groupbridge on behalf of Cambridge Water Company, lies between Duxford Grange Pumping Station and the A505, centred on TL 4503 4452.

Geology and Topography

The pipeline crossed an area of slight geological change, with the New Pit Chalk formations on the high ground at the southern end of the line overlying the Holywell Chalk to the north of Grange Road. Slight overlying Drift deposits consisting of Alluvial Fan (silt, sand and gravel) were encountered between Grange Road and the A505, with the northern (east-west) section of pipeline lying once more on the Holywell chalk. The southernmost trench on the relatively high ground to the south of Grange Road lay at a height of 61.42m above OD. From Grange Road northwards, the land is slightly undulating but essentially flat, with a height of 28.58m adjacent to the A505.

Archaeological Background

Prehistoric flint scatters are prevalent in the landscape that the pipeline route traverses. A Neolithic flint scatter was identified to the east of the pipeline (SMR 04085), whilst Mesolithic flints were found further east. Evidence for Mesolithic and ealier Neolithic activity was also recovered from an evaluation to the northeast of the pipeline (McFadyen 1999a and 1999b). Bronze Age barrows have also been identified in the area (MCB 5175), whilst cropmarks have revealed enclosures to the east of Duxford Grange (MCB 10684). A series of developments and quarry work in the village of Duxford c. 3km to the northeast, have revealed archaeology dating from the Mesolithic through to the post-Medieval periods. The pipeline also lies alongside the Icknield Way, an ancient east-west trackway. The Roman town at Great Chesterford and associated outlying villa are some 4km to the southeast of the pipeline route.

Duxford Airfield originally dates to the First World War and remained in military use until 1961. During the Second World War the RAF squadrons flying out of Duxford played a key role in the Battle of Britain, including Douglas Bader's famous *Big Wing* squadrons. The airfield remained a fighter base when it was taken over by the USAF in 1943, being returned to the RAF in 1945. The airfield had been the target for German aerial attacks, as well as the crash site for numerous aircraft.

METHODOLOGY

A brief for archaeological evaluation was issued by Cambridgeshire County Council (Gdaniec 2007) outlining the archaeological requirements of the project.

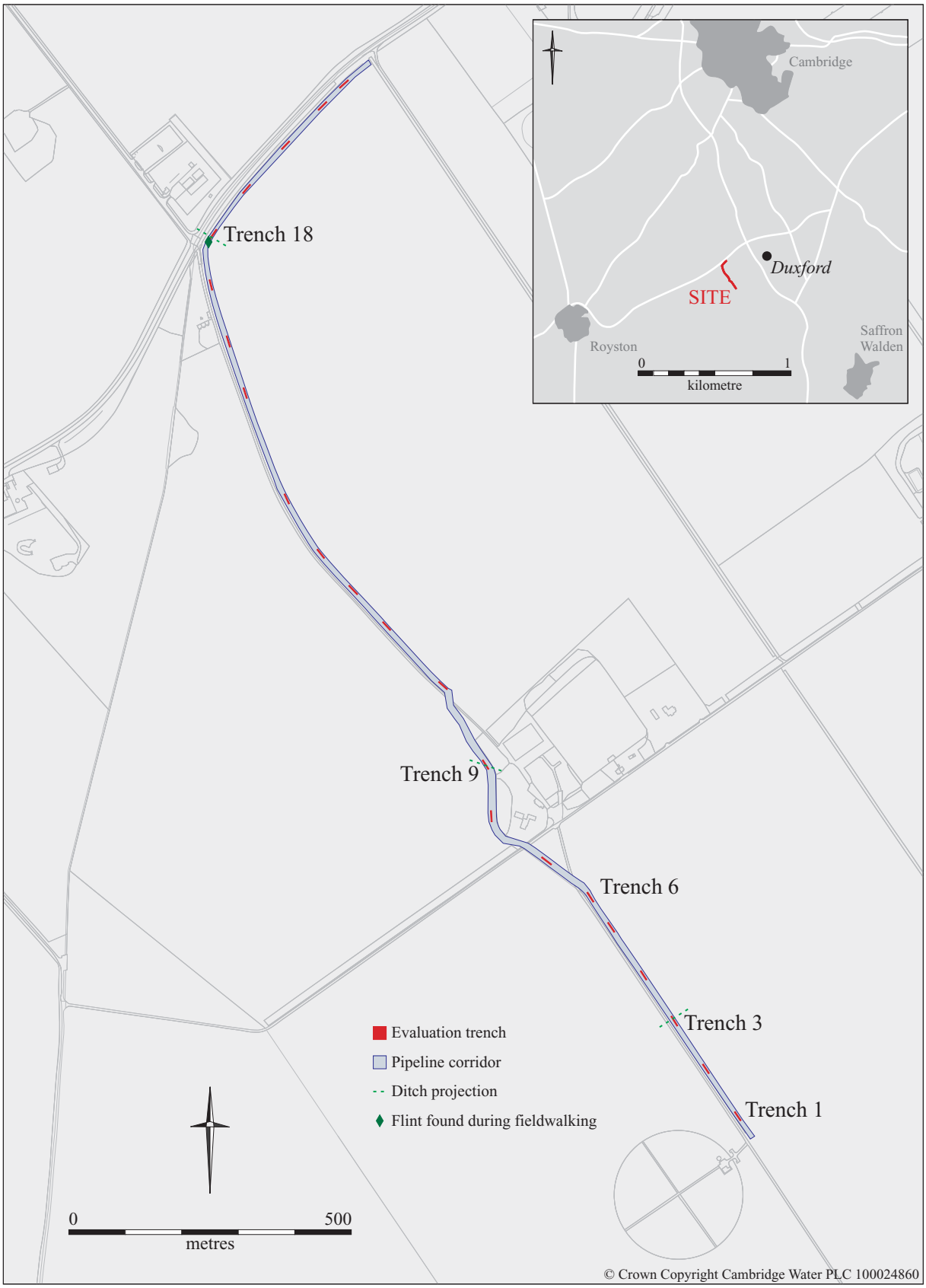

Figure 1. Site and trench locations

An archaeological project design specification was prepared by the CAU (Beadsmoore 2007). The evaluation of the pipeline route consisted of field survey and trial trenching.

Field Survey

A central transect along the pipeline corridor was walked from south to north, covering a c.2m wide sweep, collecting artefacts at 20m intervals. The field to the south of Grange Road was freshly planted and consisted of loose, bare soil in which artefacts would be easily spotted. The pipeline corridor to the north of Grange Road was less recently worked, with a significant growth of grass and weeds. However, sufficient weathered, bare soil was present to enable field-walking to take place. Due to the proximity of Duxford airfield and the possibility of discovering live ordnance, no metal detecting survey was conducted.

Trial Trenching

440m of trial trenching was excavated by 360° mechanical excavator, consisting of 22 trenches, each of 20m in length and 1.90m wide. The overburden consisted almost entirely of topsoil, from 0.25m to 0.40m in depth, with an occasional residual subsoil on the north side of Grange Road, up to 0.20m in depth. The depth and make-up of both ends of each trench was recorded, and trenches base planned at a scale of 1:50. Discrete features were half-sectioned (50% sample), and linear features were sampled in 1m sections. Sections were recorded at 1:10. The trenches were numbered sequentially south to north, Trench 1 being near Duxford Grange Pumping Station, and Trench 22 adjacent to the A505 on the edge of Duxford Airfield. Recording followed the CAU modified MoLAS system (Spence 1990). All archaeological features were excavated by hand, although areas of geological change were occasionally tested by machine to confirm a non archaeological origin. All work was carried out in strict accordance with statutory Health and Safety legislation and with the recommendations of SCAUM (Allen and Holt 2002). All of the excavation work conducted by the 360° machine was monitored by an unexploded ordnance technician from BACTEC International.

RESULTS

Field Survey

The fieldwalking produced only one worked flint, two small pieces of 19th century ceramic, and a post-Medieval fragment of red tile. The single worked flint was found adjacent to the A505 on the line of Trench 19.

Trial Trenching

Twenty two trenches of c.20m length were excavated along the route of the pipeline. Five of these trenches contained features requiring further investigation, three of which lay to the south of Grange Road. Five undated pits of uncertain and potentially

natural origin were exposed, as well as one linear feature, also of possibly natural origin, and one ditch containing a sherd of Roman pottery. Two other linears were exposed, both of 20th century date.

Undated Features

None of the six undated features contained any artefacts. This, combined with sterile, unlayered silt fills, must suggest a potentially natural origin for all of them. The single linear included in this category, F.6 in Trench 6, was short and curved in plan, and sharply U-shaped in profile, with an unconvincing fill. Pits F.4 and F.7, also in Trench 6, were small and equally dubious, with nearby pit F.3 being more convincing in its form, although the fill was completely sterile, and the cut was very shallow. Trench 1 also contained two possible pits, F.1 and F.2, both cut into chalk. Once more, the features contained no artefacts and sterile silt fills. F.2 had an irregular cut that could have derived from the action of tree roots. F.1 was more convincing in its form, with a rounded profile 0.60m wide and 0.15m deep.

F.1 Pit; [002], sub circular in plan with a roughly cut, bowl-shaped profile, 0.60m x 0.55m, depth 0.15m. Fill [001], a mid brown sandy silt with frequent chalk pebbles but no other inclusions. No finds.

F.2 Pit; [004], only partially exposed, sub circular in plan with a roughly cut, rounded V-shaped profile, 1.30m wide, depth 0.35m. Fill [003], a mid brown sandy silt with frequent chalk pebbles but no other inclusions. No finds.

F.3 Pit; [006], sub circular in plan with a wide, rounded V-shaped profile, 1.00m x 0.85m, depth 0.15m. Fill [005], a mid grey-brown silt with occasional chalk pebbles but no other inclusions. No finds.

F.4 Pit; [008], only partially exposed, sub circular in plan with a shallow, flat-based profile, 0.70m wide, depth 0.06m. Fill [007], a mid grey-brown silt with occasional small chalk pebbles but no other inclusions. No finds.

F.6 NW-SE ditch; [014] and [018], elongated segment, slightly curved in plan with a U-shaped profile, up to 0.52m wide, depth 0.26m. Fills [011-13] and [017], a moderately compact mid grey-brown fine clay-silt with occasional small chalk pebbles but no other inclusions. Edge deposits of firmly compact chalky clay-silts. No finds.

F.7 Pit; [016], appears at terminus of F.6, circular in plan with a steep-sided U-shaped profile, diameter 0.49m, depth 0.29m. Fill [015], a compact mid grey-brown fine clay-silt with occasional small chalk pebbles but no other inclusions. No finds.

Roman Feature

A single feature of possible Roman date was uncovered, F.5, a small ditch in Trench 9 lying on an east-west alignment. The maximum dimensions of this feature were 0.64m wide and 0.14m deep, and the width was seen to narrow considerably when the edge coincided with a patch of very hard chalk and flint gravel. The ditch contained a single small sherd of undiagnostic Roman greyware pottery. Although a single sherd cannot be used to conclusively date the feature, the paucity of finds of any period, even from the fieldwalking, would make a secondary, residual origin for this sherd less likely.

F.5 E-W ditch, [010] width 0.64m, depth 0.14m, with a shallow, gently rounded profile, narrowing slightly when the cut meets harder geology. Fill [009] a soft mid orange-brown clay-silt with occasional chalk. Contained one piece of Roman pottery.

20th Century Features

Two features of 20th century date were exposed, and both were excavated due to their proximity to Duxford Airfield and the possibility of either having a wartime date. The smaller of the two, F.8, was found in Trench 3, running northeast-southwest across the gentle slope overlooking the airfield. The profile was a U-shaped, machine dug cut, approximately 1m wide and 0.35m deep from the top of the natural chalk, with a step going down to 0.65m. The flat base was scored by the teeth of a machine bucket. The feature was backfilled with chalk, and contained a very corroded metal (fe) cylinder with the remnants of thick wire cables attached to the interior base, and what appeared to be a wire housing coming out of the base. This artefact was not readily recognisable as an engine part that might be associated with farm or plant machinery, although such a use remains possible. The artefact is currently at the Imperial War Musuem, Duxford, awaiting possible identification.

It is difficult to determine the original purpose of such a feature, that contained no service pipe or cable, and was clearly not an agricultural ditch. The possibility of a wartime date, perhaps as part of an anti-glider defence for the airfield, cannot be ruled out, although the lack of topsoil lying on the base might suggest a rapid or instantaneous backfilling after excavation.

The second feature, F9, occurred in Trench 18, alongside the A505 and lying at a right-angle to it. This was a large feature, over 4m wide, machine dug, with a flat base and vertical sides, which were sloped in the upper half of the profile. The fill was a mix of redeposited natural chalk and natural sandy silt, with very little topsoil mixed in, which was well compacted and settled, and well adhered to the edges. The overall depth was almost 2m, and the similarity between this feature and wartime anti-tank ditches in the area (for example, at Great Shelford, see Whittaker et al 2002) was quite striking. However, having found no artefacts during excavation, a piece of modern rubbish was found near the base of the feature, unlikely to be much more than twenty years old. As with F.8, the lack of a pipe within the cut, or of a layer of weathering or topsoil at the base, make a ready interpretation difficult, but it is difficult to ascribe anything other than a very recent date to this feature.

F.8 NE-SW ditch, 20th century; [022], width 1.05m, depth 0.35m and 0.65m, with a U shaped profile. Machine dug into chalk with a c.0.90m wide bucket (width at base of square cut). Tooth marks evident on base. Step of 0.30m mid section, with deepest section on SW side. Fills [019-21], compacted redeposited chalk sealing coarser, looser chalk on base. These deposits separated by a thin layer of chalky silt in the NW section, containing fragments of tar-soaked paper and a piece of heavily corroded iron. [021] contained a very corroded cylindrical metal with internal cable attachments, currently awaiting identification at the Imperial War Museum. Undated, but compatible with a WWII date.

F.9 NW-SE ditch, 20th century; [024], width 4.10m, depth 1.85m with a U shaped profile, lower half of edges vertical, steeply sloping above, flat based. Machine dug into chalk, upper natural consisted of brown silt overlying the chalk. Fill [023] consisted of a fairly homogenous mix of the chalk and silt natural with small lumps of topsoil. Very little layering evident, and no basal deposit. Very well compacted, without voids, and backfill adhere well to the edges and base, with occasional fragmentary

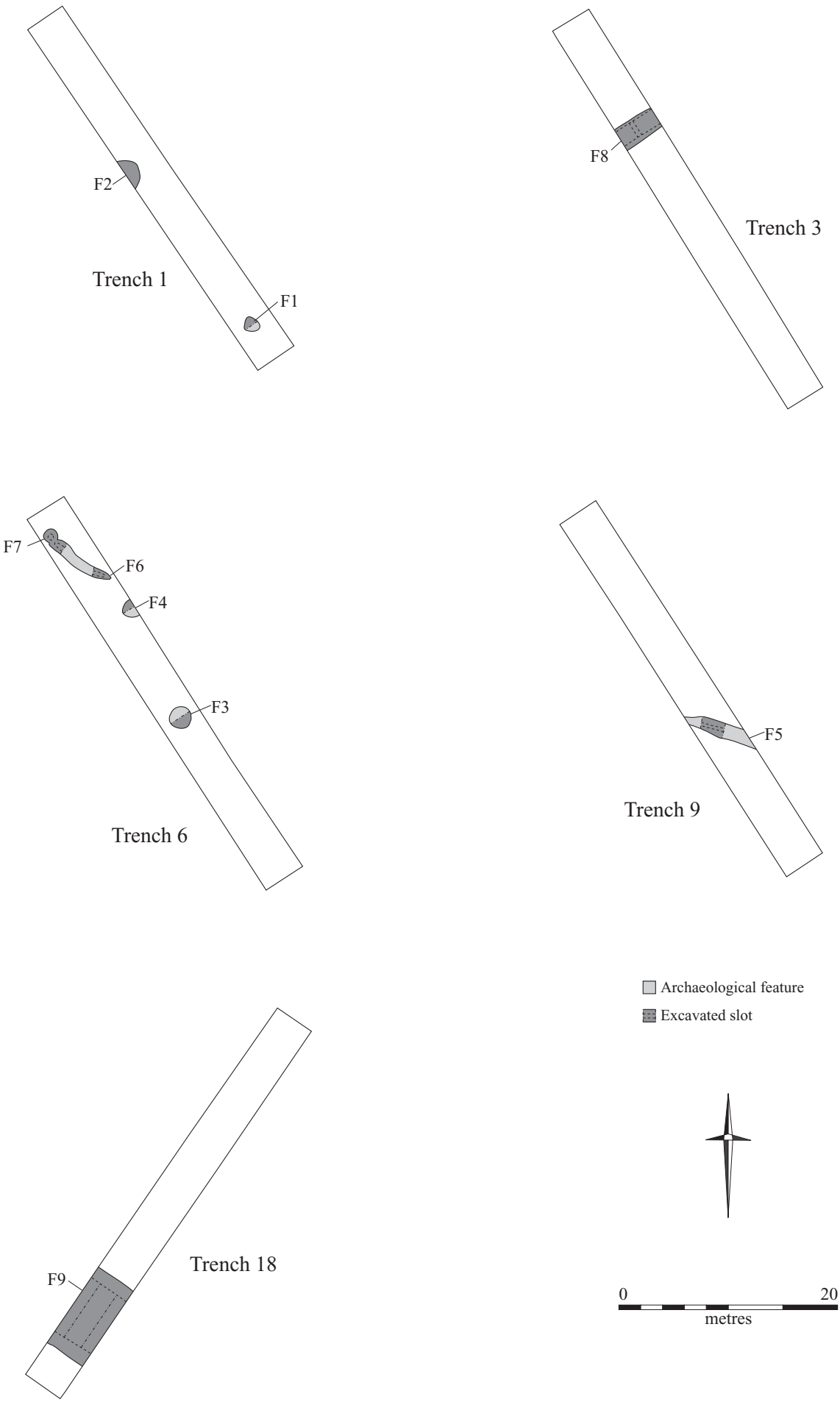

Figure 2. Feature plans

tools marks visible, although impossible to distinguish whether bucket tooth or hand tool caused them. Modern rubbish no earlier than 1980s found near base.

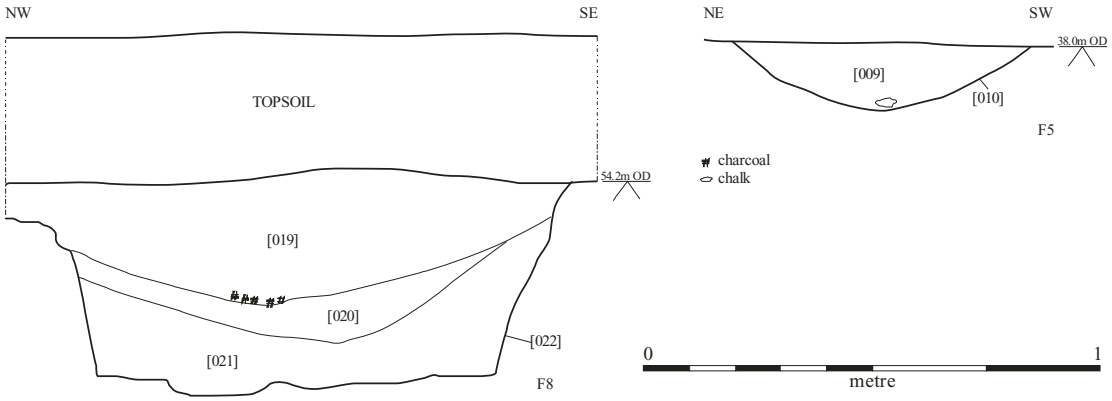

Figure 3. Feature sections

DISCUSSION

Although lying within a rich archaeological and historical landscape, the Duxford pipeline evaluation revealed little of significance. The fieldwalking detected very low numbers of artefacts of any period, and suggests nothing more than a prehistoric presence in the landscape already attested to in the local archaeological record. The trial trenches produced little more, with the only features potentially of prehistoric date all being likely candidates for having a natural or geological origin. The single ditch of probable Roman attribution is likely to be the base of a field ditch in the wider Romano-British agricultural landscape, outlying a farm or settlement that need not be in close proximity. Certainly, the complete lack of Roman artefacts picked up in the fieldwalking would hint that no such settlement lies hard by. The paucity of flint working evidence is perhaps disappointing in a landscape punctuated by significant scatters of material, but such scatters can represent working areas, and do not suggest that the "quieter" areas were not utilised at all by prehistoric populations.

The modern features remain ambiguous, really only of interest if related to the Second World War, and this seems unlikely in the case of the large ditch alongside the A505. The smaller ditch, on the gentle slope south of Grange Road, and overlooking the airfield, provides a better candidate for wartime use, although the very short-lived nature of the feature, attested to by the lack of any sort of basal deposit associated with weathering, is problematic in any suggestion of anti-glider defences or slit trench.

APPENDICES

Worked Flint – Emma Beadsmoore

A single flint was recovered from the site; a retouched tertiary flake (15g) collected during the field walking. The flake is potentially later Neolithic, but is not clearly chronologically diagnostic.

Roman Pottery – Katie Anderson

One sherd of Romano-British pottery was recovered, a piece of undiagnostic sandy greyware weighing 5g from ditch F.5. The lack of form makes more specific dating difficult, although the fabric suggests an early Roman date.

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