

# EXCAVATIONS AT MAYFIELD FARM, EAST BEDFONT, LONDON BOROUGH OF HOUNSLOW

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## SUMMARY

*Excavations by Framework Archaeology in advance of development at Mayfield Farm, East Bedfont revealed remnants of a Middle to Late Bronze Age field system and the possible remains of an associated settlement. Extensive field systems recognised further to the north near Heathrow Airport were previously believed to be confined to the Taplow gravel terrace, but the location of the site at Mayfield Farm indicates that they extended southwards onto the northern fringe of the lower Kempton Park terrace. Romano-British activity associated with Scheduled Monument LO61 was also recorded.*

## INTRODUCTION

Framework Archaeology (a joint venture between Oxford Archaeology and Wessex Archaeology) was commissioned by Heathrow Airport Limited (HAL) to undertake a programme of archaeological evaluation and mitigation (GL Site Code: MFM98) prior to and during the development of a constructed wetland and balancing ponds at Mayfield Farm, East Bedfont in the London Borough of Hounslow. The site is located south of Heathrow Airport, centred on NGR 507200 173550, and covers an area of c.45ha. It is bounded to the south and east by the A30, to the north by Stanwell Road, and to the west by the ESSO Oil Terminal (Fig 1). Prior to the redevelopment programme the site was open arable farmland.

This report is presented as a continuous

narrative incorporating a number of specialist finds and environmental reports, which form part of the site archive. The complete archive will be deposited with the London Archaeological Archive and Research Centre (LAARC).

## GEOLOGY AND TOPOGRAPHY

The Mayfield Farm development area lies on the junction between two Thames gravel terraces. The northern third is located on the edge of the higher Taplow terrace, whilst the remainder lies on the Kempton Park terrace to the south. The boundary between the terraces is visible as a distinctive break in slope (Figs 2–3). An almost continuous mantle of Langley Silt brickearth (Gibbard 1985) caps the Kempton Park terrace, whereas the Taplow gravels are denuded of the brickearth deposits.

## ARCHAEOLOGICAL BACKGROUND

Aerial photographic survey, trial excavation and evaluation in the Mayfield Farm area over the past thirty years have revealed rich archaeological landscapes dating from the Palaeolithic to the Roman periods (Fig 2). The area thus forms a significant element of the wider West London archaeological landscape. Intensive investigations of this landscape were undertaken between the 1970s and the 1990s by the Museum of London Archaeological Service and others (Farrant 1973; Cotton *et al* 1988;

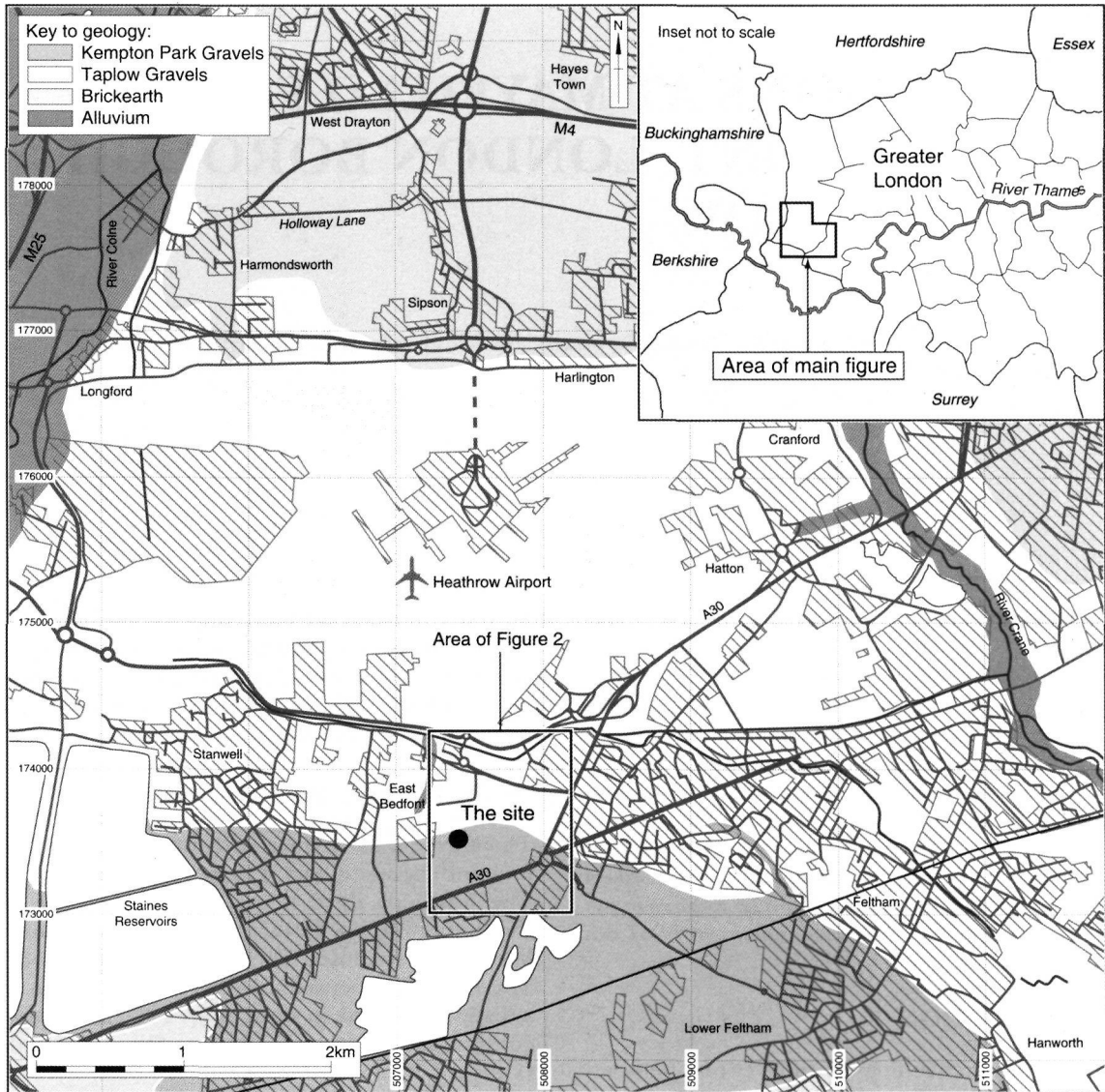


Fig 1. Site location and geology

BAA 1994). More recently, Wessex Archaeology excavated a large area at Imperial College Sports Ground (Crockett 2001) and Framework Archaeology excavated a substantial area of the former Perry Oaks Sludge Works (Barrett *et al* 2000; 2001). These large excavations contributed to a more detailed understanding of the wider landscape and its development from the Neolithic onwards. This allowed clear research aims to be defined at the outset of the Mayfield Farm Project, and it is against the wider picture

of landscape inhabitation and development that the excavations are discussed here.

### PROJECT BACKGROUND

The proposed development was restricted to 10 hectares on the western boundary of Mayfield Farm, hereafter referred to as the Site. The Museum of London Archaeology Service (MoLAS) undertook the first stages of an evaluation programme, consisting of

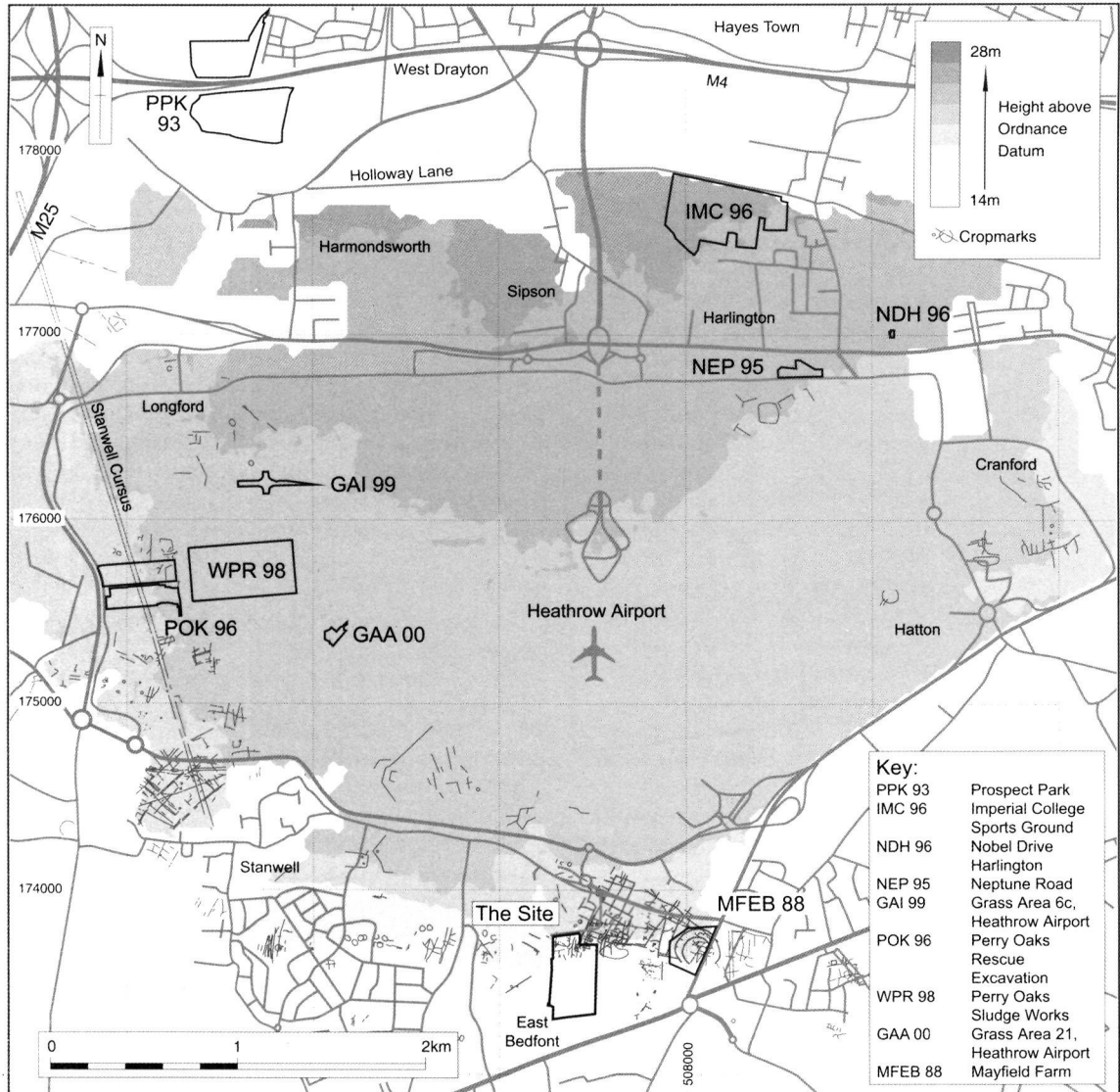


Fig 2. Archaeological sites in the vicinity of Mayfield Farm

topographical survey and fieldwalking (MoLAS 1998) and the Royal Commission on the Historical Monuments of England (RCHME) compiled a survey of available aerial photographs of the area (RCHME 1997). Framework Archaeology was subsequently commissioned by BAA to undertake a geotechnical survey and field evaluation by trenching.

The results of fieldwalking were largely negative but the aerial photographic survey redefined the recognised extent of cropmarks

associated with two Scheduled Monuments, LO61 (a Romano-British settlement) and LO62 (a large double-ditched prehistoric enclosure), situated on the northern and eastern boundaries of the Site (Fig 3). The geotechnical survey highlighted the presence of colluvium or possible palaeochannels running east-west along the foot of the terrace edge, whilst the field evaluation determined that the Late Iron Age/Roman remains associated with LO61 did not extend into the development area. Overall,

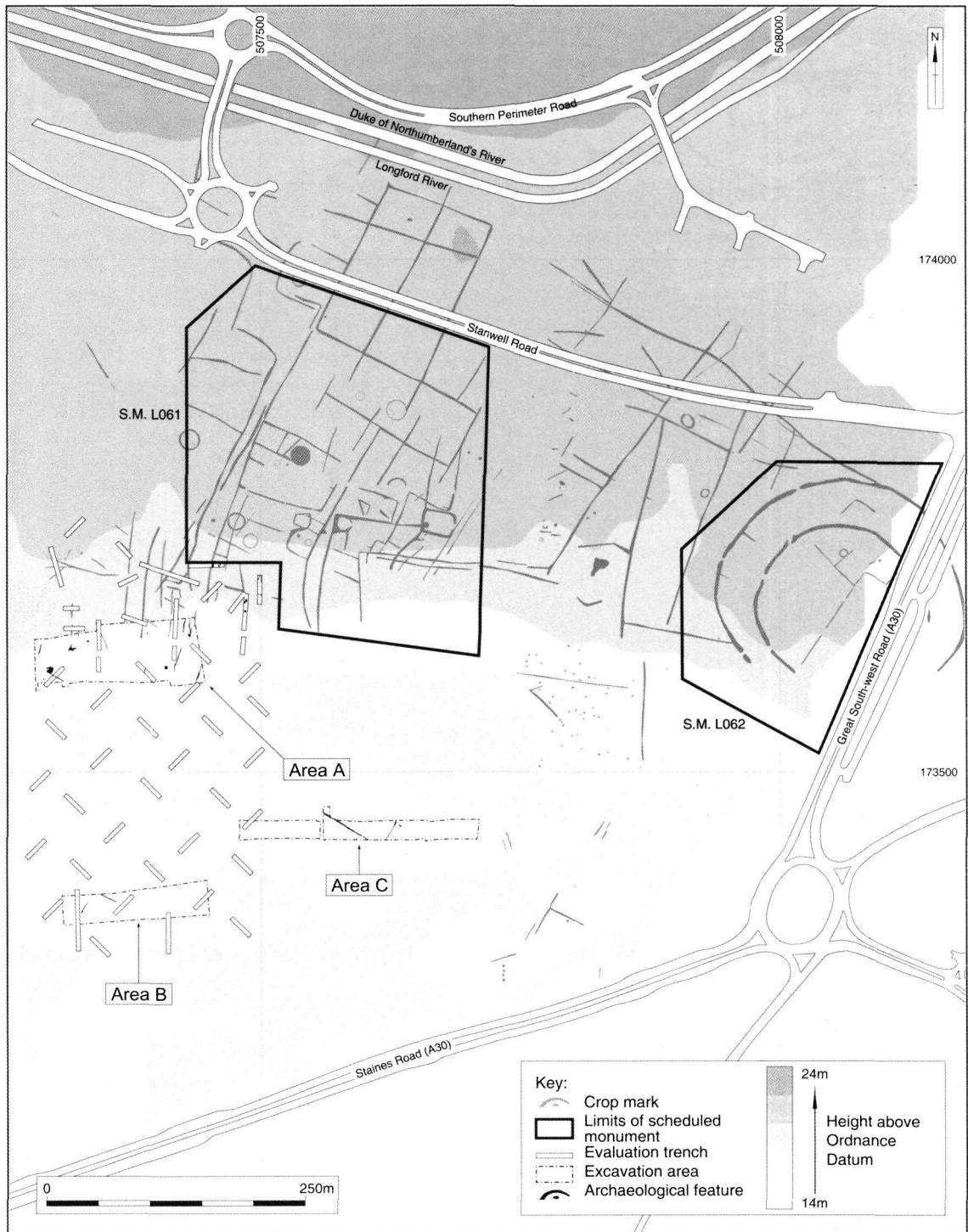


Fig 3. Location of trenches in relation to cropmarks and scheduled monuments

the evaluation results demonstrated that it was possible to design a mitigation strategy directed towards preservation *in situ* of significant, or potentially significant, archaeological remains. This was achieved over the majority of the development area.

In three of the Site areas (Areas A–C) where preservation *in situ* could not be achieved (approximately 1.8ha in total), mitigation took the form of a programme of topsoil stripping, recording, and sample excavation (Fig 3). These areas were covered by a loam ploughsoil with a maximum thickness of 0.5m that, except in one area, directly overlay natural deposits. The exception was the terrace scarp zone where a colluvial deposit had built up at the break of slope of the Kempton Park terrace. This build up may have been the result of ploughing and erosion of the brickearth capping the higher Taplow terrace.

## ARCHAEOLOGY AT MAYFIELD FARM

### Hunter-gatherer landscapes: pre-4000 BC

No direct evidence of hunter-gatherer activity was discovered but a number of palaeo-topographic features were detected. The topographic survey identified a dry valley running approximately north–south across the Taplow/Kempton Park ‘scarp’. Stripping confirmed the existence of this former watercourse running off the Taplow terrace southwards across the Kempton Park terrace. The east–west orientated scarp slope between the Kempton Park and Taplow terraces, originally believed to be a palaeochannel, was identified during evaluation to the south of Area A. A possible palaeochannel occupied the southern edge of the development area, but the requirement for preservation *in situ* precluded detailed investigation. As this channel was assumed to be incised into the Kempton Park gravels, but sealed by the Late Devensian Langley Silt (‘brickearth’) deposits, it would have formed some time between c.50,000 and 10,000 BP.

### Ceremonial landscapes of the earliest farmers: 4000–2000 BC

Aerial photographs of the southern edge of the Taplow terrace have produced excellent evidence of multi-period landscapes. Excavations carried out during the early 1970s (Farrant 1973) and by MoLAS during the late 1980s

(Cotton *et al* 1988) have enhanced the detail of this landscape picture. Prior to the current programme, however, it was not clear to what extent archaeological features extended southwards from the Taplow terrace onto the Kempton Park terrace at Mayfield Farm due to the cloaking effects of the capping brickearth deposits on the lower terrace.

The Neolithic landscape in the vicinity of Mayfield Farm was dominated by a series of hengiform and ring-ditch monuments that extended east–west along the false crest of the Taplow-Kempton Park interface ‘scarp’. To the west the Stanwell cursus probably terminated at this major topographical feature (Fig 2). Sample excavation of one of the hengiform monuments by MoLAS (Site codes MFEB87 and MFEB88) suggested that the ditches of the monument had entirely silted-up by the first millennium BC.

The eastern end of the Taplow-Kempton Park ‘scarp’ within the vicinity of the Site is particularly pronounced, and it is here that the double-ditched enclosure (LO62) is located. The 1988 MoLAS excavations (MFEB88) produced Late Bronze Age pottery from the middle and upper ditch deposits. This, however, may merely date the disuse of the monument, the actual construction phase being associated with a dense concentration of later Neolithic flints recovered by fieldwalking within the enclosure and surrounding area (Lewis 2000, 73).

The Site (MFM98) produced only sparse evidence of a Neolithic presence. Three sherds of pottery characteristic of the Late Neolithic and Early Bronze Age ceramic traditions of the region, along with a number of worked and burnt flints, were the earliest artefacts recovered. Two sherds came from the ploughsoil in evaluation Trench 17 and one was stratified within the fill of pit 5118 (Fig 4, Area A). All were in a coarse grog-tempered fabric characteristic of the Late Neolithic/Early Bronze Age period in the Middle Thames Valley but, in the absence of more diagnostic features, they could not be attributed to a specific ceramic tradition. The worked flint assemblage included an assortment of flakes, broken flakes, a single scraper and a retouched piece that had been struck from locally available gravel and Bullhead flint. Most pieces displayed edge damage, suggesting post-depositional movement, and one of the pieces was burnt. The flints were not chronologically distinctive and could be assigned only a broad Neolithic to Bronze Age date.

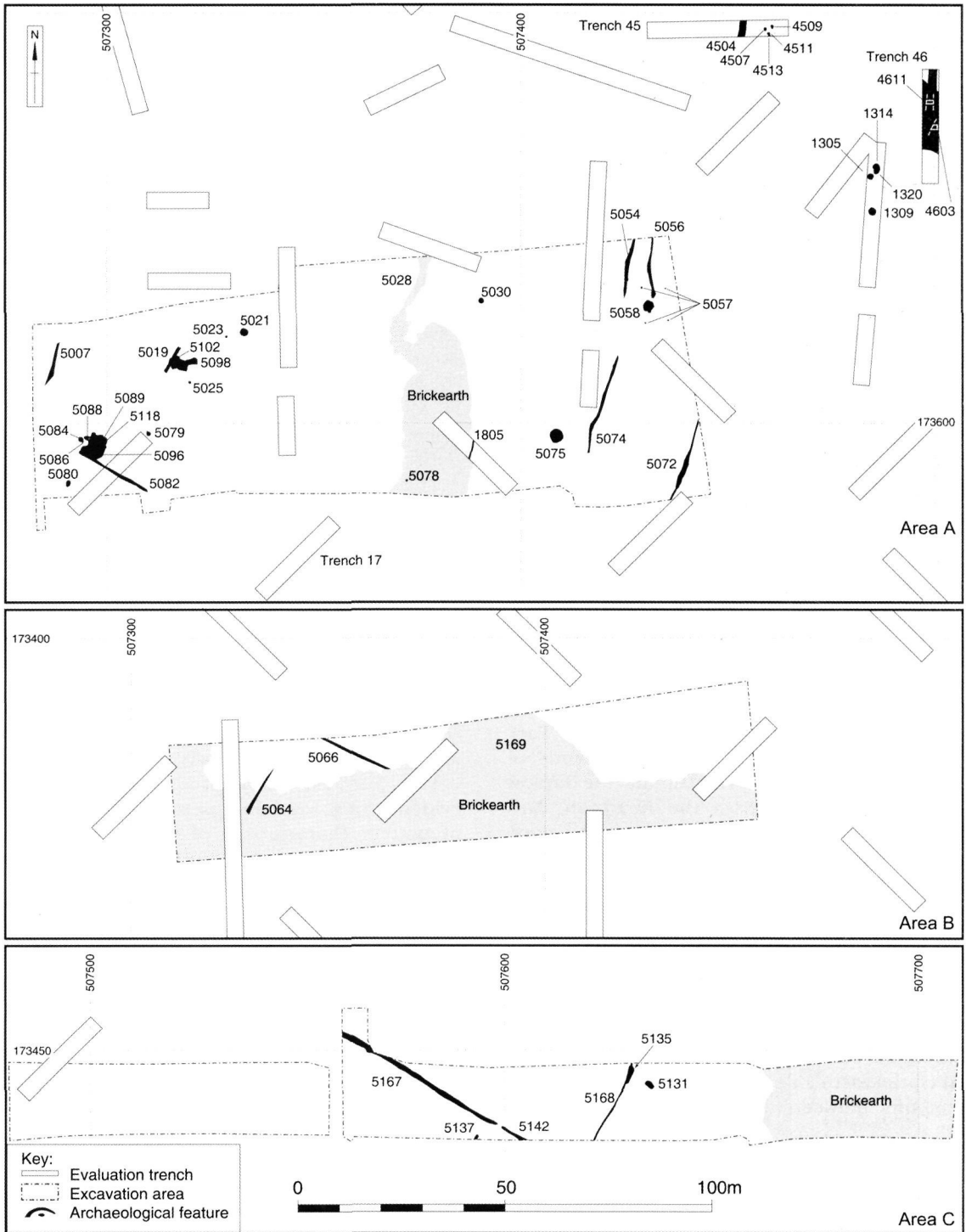


Fig 4. Areas A, B and C showing positions of evaluation trenches and principal excavated features

### The enclosed agricultural landscape: 2000 BC–100 BC

Between 2000 and 1500 BC (Early to Middle Bronze Age), the Neolithic ceremonial landscape was transformed into an ordered system of land boundaries, fields, trackways, and settlements (Barrett *et al* 2000; 2001). This pattern of development continued into the Roman period with local alterations and additions to land use, boundary alignments, and settlement size and location. The cropmark evidence from the Site attests to this transformation, clearly indicating the presence of numerous field boundaries. The 1988 excavations identified Iron Age round-houses, presumably part of a more substantial settlement, and the excavations of the 1970s (Farrant 1973) located the scheduled Romano-British settlement (LO61).

The evidence from Mayfield Farm added detail to this outline and confirmed the presence of activity on the Kempton Park terrace. Excavations revealed a number of features (Fig 4, Areas A–C) dating to the Middle to Late Bronze Age. These represented elements of field systems and the truncated remnants of a possible associated settlement. The field system was composed of a series of ditches orientated south-east to north-west (Area A: ditch 5082; Area B: ditch 5066; Area C: ditches 5167 and 5142), and south-west to north-east (Area A: ditches 5007 and 5019; Area B: ditch 5064; Area C: ditches 5135, 5137, and 5168). The character and comparable orientations of the ditches suggest that they were elements of the same system, one that reflects the cropmark alignment visible on aerial photographs (Fig 3). The layout of the field system appears to have been influenced not by the predominant topography of the area but by more subtle trends in the orientation of the slope.

The only dating evidence recovered from the field system and possible associated settlement was an assemblage of pottery, dated on the basis of fabric to the Middle to Late Bronze Age. Sherds were recovered from the fills of ditches 5082, 5135 and 5142, tree-throw 5021, pit 5023, posthole 5078, and layer 5028 (Table 1). The assemblage was generally in a fragmentary and abraded condition and was represented entirely by body sherds, most in flint-tempered ware, with the exception of a rim fragment from a Late Bronze Age hooked rim jar found in posthole 5078 (Fig 4, Area A). Sherds at the coarser end

of the spectrum derived from thick-walled vessels probably belonging to the Middle Bronze Age Deverel-Rimbury tradition, whilst the finer, thin-walled variety fell within the plainware phase of the Late Bronze Age post-Deverel-Rimbury tradition. The three boundary ditches all produced sherds of the Late Bronze Age variety, but the ditch 5082 assemblage contained, in addition, a number of residual Deverel-Rimbury sherds.

A number of pits, postholes and other features filled with burnt flint were recorded. Most of these features, including pits 5025 and 5102, were located in Area A, close to the break of slope of the lower terrace, but pit 5131, in Area C, which produced two Middle Bronze Age sherds, also contained a substantial quantity of burnt flint. Burnt flint pits have been located at other sites in the vicinity, including Perry Oaks to the north-west of Mayfield Farm (Barrett *et al* 2000). These features are increasingly recognised within Bronze Age settings and are variously interpreted as cooking troughs or refuse pits containing material derived from such troughs, sweat lodges or saunas, or features associated with small-scale industry producing calcined flint for use in pottery production (Needham 1991, 137; Barfield 1991).

Two large clusters of inter-cutting pits (5089 and 5098) were located at the western end of Area A. The individual pits were *c.*0.60m in diameter and up to 0.40m in depth. A number contained charred plant remains and charcoal. Their function was not established but, in view of their location within the deeper brickearth deposits on the scarp slope, it is reasonable to conjecture that they were small-scale brickearth extraction quarries associated with a settlement set in the surrounding field system. Evidence of structures associated with such a settlement may have been lost due to truncation resulting from agricultural activity. Nonetheless, the environmental evidence pointed to domestic activity in the vicinity and provided some evidence for the nature of the ecology during the Middle to Late Bronze Age.

A sampling programme for the recovery of charred plant remains was undertaken during excavation. Preserved charred material was recovered from two samples taken from Middle to Late Bronze Age features, posthole 5078 and pit 5131 (Table 2). Both samples contained abundant charcoal, and a small quantity of charred cereal was also recovered from the pit.

Table 1. Finds recovered from excavation, with reference to evaluation

Weight in grammes; CBM =ceramic building material; Neo/EBA = Neolithic/ Early Bronze Age; MBA = Middle Bronze Age; LBA = Late Bronze Age; Ro = Roman

Feature	Context	Burnt flint		CBM (RB)		Fired clay		Flint		Glass (RB)		Neo/EBA pot		MBA pot		LBA pot		Ro pot		Post-Ro pot		Copper alloy
		No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	
Soil accumulation	5004	2	31					3	28													
Ditch 5007	5006	2	41					1	1													
Ditch 5019	5018	13	454					7	83													
Tree throw 5021	5020	4	77					4	75													
Pit 5023	5022	4	77					4	75													
Layer	5028																					
Tree throw 5021	5048	4	22					5	27													
Tree throw 5021	5049	10	70					5	16													
Posthole 5078	5077	2	19					5	16													
Ditch 5082	5081	34	127					4	3													
Pit 5102	5100	149	1623																			
Pit 5102	5102																					
Pit 5105	5104	1	37					1	3													
Pit 5108	5107	11	101					1	3													
Pit 5112	5111	3	20					3	15													
Pit 5118	5119	2	7					1	1													
Pit 5128	5127	1	10					1	1													
Pit 5131	5130																					
Pit 5131	5132	75	1026																			
Ditch 5135	5132	8	123																			
Ditch 5140	5141	1	61																			
Ditch 5142	5158																					
Mod disturbance 5148	5147																					
Ditch 5164	5162																					
Ditch 5168	5153	1	13					2	3													
<b>Sub-total excavation</b>		<b>323</b>	<b>3862</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>9</b>	<b>38</b>	<b>259</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>21</b>	<b>382</b>	<b>23</b>	<b>104</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>53</b>	<b>0</b>
<b>Including evaluation</b>	<b>TOTAL</b>	<b>393</b>	<b>4488</b>	<b>11</b>	<b>276</b>	<b>167</b>	<b>2365</b>	<b>48</b>	<b>319</b>	<b>1</b>	<b>13</b>	<b>1</b>	<b>3</b>	<b>73</b>	<b>shards / 590g</b>	<b>209</b>	<b>2557</b>	<b>3</b>	<b>82</b>	<b>1</b>	<b>82</b>	<b>1</b>



Table 2. Results of the charcoal analysis by fragment count

Feature	Posthole 5078	Pit 5131
Sample number	5503	5504
Context number	5077	5130
<i>Quercus</i> sp.	Oak 14	9
<i>Corylus avellana</i>	Hazel 3	2
Maloideae	Apple, pear hawthorn etc 3	1
<i>Fraxinus excelsior</i>	Ash -	8
<b>Total number of fragments</b>	<b>20</b>	<b>20</b>

The charred plant remains were identified using a binocular microscope at x10 to x20 magnification. Twenty fragments of charcoal were randomly selected for identification, fractured and sorted into groups based on the anatomical features observed in transverse section at x10 and x20 magnification. Representative fragments from each group were then selected for further examination using a Meiji incident-light microscope at up to x400 magnification. Identifications were made with reference to Schweingruber (1990) and modern reference material. Nomenclature and taxonomic order follows Stace (1997).

All taxa identified were native to the British Isles and would have been locally available. All have good burning properties for use as fuel wood and, given the context types and the presence of cereal remains, it is likely that the deposits represent the dumped remains of domestic fires. All of the taxa represented at Mayfield Farm have been recovered from deposits of similar dates at nearby sites. Middle Bronze Age postholes from Grass Area 21 and Northern Taxiway (site codes GA00 and GAI 99; Fig 2) produced the same range of taxa. One sample was dominated by oak, the other by ash charcoal (Challinor in prep). Oak and ash are valuable sources of timber as well as firewood and their widespread use as fuel suggests that resources were plentiful in the area surrounding the settlement.

Five cereal grains and four glume bases recovered from posthole 5078 were identified as *Triticum spelta/dicoccum* (spelt/emmer wheat). One of the grains showed characteristics of *T. spelta* and there were glume bases amongst the chaff with characteristics of *T. dicoccum*. Whilst this cannot provide secure identification, it indicates that both species may have been present at the Site. A single grain-sized weed seed was identified as *Bromus* sp. (brome grass).

The lack of small weed seeds and the rarity

of chaff fragments suggest that the charred remains represent domestic refuse rather than crop processing debris. The general paucity of preserved remains limits interpretation but this problem is common for the period. The remains from Mayfield Farm are of interest as there are few identified examples of spelt wheat for the Late Bronze Age period. Samples from a waterhole at Perry Oaks produced waterlogged glumes identified as both *T. spelta* (spelt wheat) and *T. dicoccum* (emmer wheat). Radiocarbon dates for the *T. spelta* glumes produced a date of 1512 BC to 1202 BC, providing evidence for cultivation of both species of wheat at Perry Oaks during the Middle Bronze Age (Carruthers in prep).

In summary, the environmental evidence indicates that, during the Bronze Age, emmer and possibly spelt wheat were cultivated within the fields surrounding the Site, in common with sites lying on the Taplow terrace to the north. The charcoal provides evidence of a landscape in which trees such as oak and ash flourished in sufficient numbers to be exploited for a domestic fuel supply as well as for construction.

### Late Iron Age and Roman (100 BC–AD 410)

The results of the evaluation confirmed that the Site lay on the periphery of a predominantly 1st- to 2nd-century AD rural settlement (Scheduled Monument LO61). The southern sector of the settlement, measuring some 45m by 30m, appeared to be defined by the southern margin of the upper (Taplow) terrace. A similar pattern was observed at Perry Oaks where the Late Iron Age and Roman settlement occupied an upper terrace and terrace edge, but did not extend to the lower terrace (Barrett *et al* 2001). The settlement at Mayfield Farm did not appear to extend westwards beyond a north–south aligned ditch (4504) located in Trench 45 (Fig 4). The ditch corresponds with a cropmark extending

north into the scheduled area (Fig 3), and was excavated where it crossed earlier Iron Age and Neolithic features (Cotton *et al* 1988). The arrangement of the Roman ditches appeared to have a similar alignment to an earlier Iron Age pattern, suggesting continuity of the main axis of landscape organisation.

An area of intense activity dating to the 1st and 2nd centuries AD, represented by a linear ditch, pits, and areas of cobbling and levelling, was exposed in Trench 46 (Fig 4). Numerous fragments of fired clay found in the fill of several features may have belonged to a demolished kiln or oven. Charred cereal grains and chaff recovered from samples taken from these features during evaluation suggest crop processing activity in the vicinity, possibly associated with an unlocated corndrier (Framework Archaeology 1998, 41–2). The limited scale of the archaeological investigations in this area of the Site precluded detailed characterisation of the Romano-British settlement, but the density of features may indicate that occupation of this nature covered a considerable area to the east of Trench 46.

The distribution of Roman period artefacts (pottery, ceramic building material, glass, and metalwork) was restricted to evaluation trenches located at the south-western edge of Scheduled Monument LO61. Pottery dating to this period was in relatively good condition, suggesting a lack of movement from the original point of deposition. Pottery was predominantly of 1st- to 2nd-century AD date but a few 3rd- to 4th-century AD sherds attest to a limited level of later activity in the vicinity.

The ceramic assemblage was dominated by coarse sandy greywares and grog-tempered wares representing a continuation of the native Late Iron Age ceramic tradition of the region (Table 3). No attempt was made to source the fabrics, but most were probably local products of potteries located in the Colne and Lower Thames valleys or of the early Alice Holt industry. Oxidised sandy wares, white slipped red ware and a few white wares, probably imported from the Verulamium region, were also recovered. Three pieces of South Gaulish samian (including a form 15/17 dish) and an amphora sherd from southern Spain were the only continental imports.

Although some of the grog-tempered sherds could be of pre-conquest date, their association with 'Romanised' sandy greyware fabrics sug-

gested a post-conquest date, probably within the range AD 50/60–100. Most vessel forms were common 1st-century AD types, including bead rimmed and necked and cordoned jars and distinctive 'Surrey/Atrebatian' bowls with girth cordons and grooved rims. A near complete small jar with a sharp mid-body carination, dating to the second half of the 1st century AD, is probably an imitation of a continental prototype (Going 1987, 29, fig 14, H10 1.1; Davies *et al* 1994, fig 137, 858 and fig 139, 889).

Later vessels included a triangular rimmed bowl sherd, a common Trajanic to Antonine form. Oxfordshire products, including a white colour-coated mortarium and an imitation samian form 38 bowl found in the levelling layers in Trench 46, were produced during the later 3rd to 4th centuries AD. Three thick-walled storage jar sherds, probably products of the Alice Holt industry, found in the latest backfill of pit 4603, may also belong to this period.

The small size of the assemblage restricts comparison with other collections found locally at Imperial College sports ground, Harlington (Wessex Archaeology 2000), Perry Oaks Sewage Works, Heathrow (Brown in prep), and Staines (Crouch & Shanks 1984; McKinley forthcoming). In general, however, the 1st-century AD group is broadly similar to contemporary material in these larger collections and the nature and condition of the assemblage are consistent with deposition of domestic refuse from Scheduled Monument LO61. The paucity of material dating to the mid-2nd century AD onwards suggests that the focus of activity shifted to a more distant location or continued on a much-reduced scale.

A small quantity of ceramic building material indicated the existence of a Romanised building somewhere in the vicinity. Three flat fragments may belong to *tegulae* or the smaller Roman brick forms (*lydion*, *pedales*, or *bessales*) used as flooring and as lacing and bonding courses in walls, hypocausts, and arches (Brodrick 1987, 34–62). Other finds included a fragment of blue/green vessel glass, probably from the neck of a 1st- or 2nd-century AD bottle or flagon.

The ceramic evidence suggests that the settlement reached its peak during the late 1st to mid-2nd century AD. Deep features, partially infilled as rubbish or cesspits during this period, were subsequently back-filled and the site levelled with gravel. The levelling may be evidence that this sector of the settlement reverted to cultivation. Sherds of 3rd/4th-century AD pottery

Table 3. Pottery fabric totals by number and weight (g) for each feature (Evaluation Trench 46 only)

Feature	Context	PREHIST IMPORTS			OXFORDSHIRE WARES			OXIDISED WARES			GREY COARSEWARES				
		Flint-temp	Samian	Dress.20	Oxon cc	Oxon mort	VRWS	WSRW	Misc ox	Greyware	Grog-temp	Micaceous	Sand/flint	Total	
	No/Wt	No/Wt	No/Wt	No/Wt	No/Wt	No/Wt	No/Wt	No/Wt	No/Wt	No/Wt	No/Wt	No/Wt	No/Wt	No/Wt	
Subsoil	4602													2/10	
Pit 4603	4607		1/1				3/7		11/68	7/59				22/135	
Layer	4608	1/7							9/114	3/34				12/148	
Pit 4611	4609				1/24				1/3					3/34	
	4613								16/135					16/135	
Layer	4614								19/203	1/8				22/217	
	4618		1/2						2/56	1/17				4/75	
Pit 4622	4621		1/2	1/49			1/33	1/5	21/145	10/114				37/368	
Ditch	4623								12/186	25/741	4/28			43/965	
	4625								39/299	1/28		2/19		42/346	
	4626								132/1219	5/120		1/4		6/124	
TOTAL		1/7	3/5	1/49	1/24	1/8	4/40	3/11	3/22	53/1121	4/28	3/23		209/2557	

Key: Oxon cc = Oxfordshire colour coat; Oxon mort = Oxfordshire mortarium; VRWS = Verulamium region white-slipped; WSRW = white-slipped redware; misc ox = miscellaneous oxidise

and a fragment of a late Roman armlet, found in a gravel spread in Trench 46, provided a broad date for the final episode of levelling. The armlet was made from a fine copper alloy wire and the outer surface was decorated with continuous transverse grooves, producing a ridged effect. It resembles a 3rd- or 4th-century AD example from Colchester (Crummey 1983, 40, fig 44, 1676).

## DISCUSSION

Archaeological investigations carried out in the Heathrow area over a number of years provide comparative evidence for the results of the work at Mayfield Farm (Fig 2). The most extensive of these, at Perry Oaks (WPR 98) (Barrett *et al* 2000; 2001) and Imperial College Sports Ground (IMC 96) (Crockett 2001), revealed evidence of an extensive landscape of Bronze Age field systems and settlements. Contrary to the conclusion drawn by Hull (1998) that large scale permanent settlement and land use was uncommon in the Middle Thames Valley until the Late Bronze Age, the Perry Oaks excavations demonstrated that division and enclosure of land in the vicinity of Heathrow Airport originated in the Early to Middle Bronze Age and developed through the Late Bronze Age. Other archaeological investigations at Heathrow, including Neptune Road (NEP95) and Nobel Drive, Harlington (NDH96), provided evidence for Late Bronze Age expansion of the field systems to the area north-east of Heathrow Airport (Elsden 1997). The results of the Mayfield Farm excavation corroborate the combined evidence for this phase of expansion. Middle Bronze Age burial activity and a Late Bronze Age unenclosed settlement were recorded at Prospect Park (PPK93) to the north-west of the airport (Andrews 1996).

Cropmark evidence had suggested that the pattern of extensive enclosure and settlement was confined to the Taplow terrace (RCHME 1997), but the evidence from Mayfield Farm demonstrates that the Bronze Age field systems spread further south onto the northern reaches of the Kempton Park terrace. This wider area of the Middle Thames Valley had clearly been transformed into an extensive and well-ordered landscape of fields and settlements during the Middle and Late Bronze Age. The recovery of grain seeds from the environmental samples at Mayfield Farm provides evidence for local cultivation of cereals and supports similar evidence from Perry Oaks (Barrett *et al* 2000;

2001), Grass Area 6c (GAI99) (Framework Archaeology 2000a), Grass Area 21 (GAA00) (Framework Archaeology 2000b), and Imperial College (IMC96) (Crockett 2001).

If these sites together formed part of a single major network of fields and settlements, it would mean that at least 12 square kilometres of present Hounslow Heath lay within an intensive agricultural and pastoral landscape. The original extent of this Bronze Age landscape has yet to be determined as Heathrow Airport and other modern developments probably obscure additional field systems and settlements. The work of transforming the pre-existing landscape would have represented a huge expenditure of labour organised within a well-ordered and structured social system.

The absence of Late Iron Age and Roman remains within the excavated area supports the findings of the evaluation that the field system complex and settlement of Scheduled Monument LO61 did not continue into the development area. They did appear, however, to extend slightly beyond the boundaries of the scheduled area. It is evident that an agricultural and pastoral economy continued during this period, although the structure was altered and alignments changed, and settlements were still scattered throughout the field systems. Whilst there is evidence for a levelling of the Mayfield Farm site in the 3rd and 4th century AD, it cannot be assumed that the entire field system visible as cropmarks in the area underwent a similar change of land use.

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## BIBLIOGRAPHY

- ANDREWS (1996), P Andrews 'Prospect Park, Harmondsworth, London Borough of Hillingdon: settlement and burial from the Neolithic to the early Saxon periods' in P Andrews & A Crockett *Three Excavations along the Thames and its Tributaries, 1994: Neolithic to Saxon Settlement and Burial in the Thames, Colne and Kennett Valleys* Wessex Archaeol Rep No. 10, 1–50
- BAA/902 (1994), MoLAS Heathrow Terminal 5: Archaeological Evaluation Report
- BARFIELD (1991), L Barfield 'Hot stones: hot food or hot baths?' in M Hodder & L Barfield (eds) *Burnt Mound and Hot Stone Technology: Papers from the Second International Burnt Mound Conference, 1990*, 59–67
- BARRETT *et al* (2000), J C Barrett, J S C Lewis & K Welsh 'Perry Oaks – a history of inhabitation, Part 1' *London Archaeol* Vol 9 No. 7, 95–9
- BARRETT *et al* (2001), J C Barrett, J S C Lewis & K Welsh 'Perry Oaks – a history of inhabitation, Part 2' *London Archaeol* Vol 9 No. 8, 221–7
- BRODRIBB (1987), G Brodrigg *Roman Brick and Tile*
- BROWN (in prep), K Brown 'The Roman pottery' in Framework Archaeology *Excavations at Perry Oaks*
- CARRUTHERS (in prep), W Carruthers 'The waterlogged plant remains' in Framework Archaeology *Excavations at Perry Oaks*
- CHALLINOR (in prep), D Challinor 'The charred remains and wood charcoal' in Framework Archaeology *Excavations at Perry Oaks*
- COTTON *et al* (1988), J Cotton, A David & C Pathy-Barker (1988) *An Archaeological Assessment of Mayfield Farm, East Bedfont, London Borough of Hounslow, 1987–88* MoLAS unpub evaluation report
- CROCKETT (2001), A Crockett 'The archaeological landscape of Imperial College Sports Ground. Part 1, prehistoric' *London Archaeol* Vol 9 No. 11, 295–9
- CROUCH & SHANKS (1984), K R Crouch & S A Shanks *Excavations in Staines 1975–76: The Friends' Burial Ground Site* London & Middlesex Archaeol Soc and Surrey Archaeol Soc Joint Publication 2
- CRUMMY (1983), N Crummy *The Roman Small Finds from Excavations in Colchester 1971–79*, Colchester Archaeol Rep 2
- DAVIES *et al* (1994), B Davies, B Richardson & R Tomber *The Archaeology of Roman London Volume 5: a Dated Corpus of Early Roman Pottery from the City of London* CBA Res Rep 98
- ELSDEN (1997), N J Elsdén 'Excavations at Nobel Drive, Harlington, and six sites to the North of Heathrow Airport, Hillingdon' *Trans London Middlesex Archaeol Soc* 48, 1–13
- FARRANT (1973), N Farrant 'Iron Age site at Bedfont', *London Archaeol* Vol 1 No. 13, 305–9
- FRAMEWORK ARCHAEOLOGY (1998), Framework Archaeology *Mayfield Farm Reservoir, Mayfield Farm, London Borough of Hounslow Archaeological Evaluation Report* Wessex Archaeology unpub client rep ref 45388.04
- FRAMEWORK ARCHAEOLOGY (2000a), Framework Archaeology *Grass Area 6c, Heathrow Airport: Project Design Update Note 1*
- FRAMEWORK ARCHAEOLOGY (2000b), Framework Archaeology *Grass Area 21, Heathrow Airport: Project Design Update Note 1*
- FRAMEWORK ARCHAEOLOGY (2001), Framework Archaeology *Mayfield Farm Constructed Wetland Project, London Borough of Hounslow Archaeological Mitigation Report* Wessex Archaeology unpub client rep ref 45388.07
- GIBBARD (1985), P L Gibbard *The Pleistocene History of the Middle Thames Valley*
- GOING (1987), C J Going *The Mansio and Other Sites in the South-Eastern Sector of Caesaromagus: the Roman Pottery* Chelmsford Archaeol Trust Rep 3.2/CBA Res Rep 62
- HULL (1998), G Hull 'A Middle Bronze Age field ditch? Excavations at Bankside Close, Isleworth' *Trans London Middlesex Archaeol Soc* 49, 1–14
- LEWIS (2000), J S C Lewis 'The Neolithic period' in MoLAS *The Archaeology of Greater London*, 63–80
- MCKINLEY (forthcoming), J McKinley *Welcome to Pontibus... Gateway to the West*
- MoLAS (1998), MoLAS *Proposed Balancing Ponds, Mayfield Farm, East Bedfont. Interim Investigation Summary* MoLAS Archive Report
- NEEDHAM (1991), S P Needham *Excavation and Salvage at Runnymede Bridge, 1978: The Late Bronze Age Waterfront Site*
- SCHWEINGRUBER (1990), F H Schweingruber *Microscopic Wood Anatomy* (3rd edn)
- STACE (1997), C Stace *New Flora of the British Isles* (2nd edn)
- RCHME (1997), RCHME *Mayfield Farm Heathrow, Archaeological Survey, Aerial Photographic Transcription and Analysis October 1997*
- WESSEX ARCHAEOLOGY (2000), Wessex Archaeology *Imperial College Sports Ground, Sipson Lane, Harlington, London Borough of Hillingdon; Archaeological Excavation; Phases 1–4 & 5(N); Interim Assessment Report* unpub client rep no. 42282.d (MOL reference IMC96)