

FAIRLOP QUARRY, HAINAULT ROAD, REDBRIDGE
A post-excavation assessment

Site Codes IG-HR93, IG-HR96 and FLQ97

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Executive summary

This statement summarises the results of fieldwork undertaken in Cell 6 and Areas 1 to 4 at Fairlop Quarry, Hainault Road in the London Borough of Redbridge, between 1993 and 1999, in advance of gravel extraction. The work was undertaken by the Passmore Edwards Museum (1993-4), Newham Museums Archaeology Service (1996), and most recently the Essex County Council Field Archaeology Unit (1997-9). In addition an aerial photographic crop mark interpretation report was commissioned from the Royal Commission on the Historical Monuments of England in 1996.

In total an area of 24 hectares was investigated in advance of successive stages of gravel extraction, using a variety of selective sampling strategies agreed with the Greater London Archaeology Advisory Service (GLAAS) and the funding bodies, English Heritage, the London Borough of Redbridge and Lafarge Redland Aggregates Ltd. The area in the far southwest of the development area was initially trial trenched prior to excavation in 1993-4. In 1996, areas 1b, 2a and 2b were evaluated by trial trenching, with a subsequent watching brief undertaken on areas 1a, 1b and the haul road to the south. Areas 2a, 2b, 3 and 4 were subject to watching brief and selective excavation during 1997-9.

The main approach was to record all features but to excavate a minimum sample, sufficient to understand the basic chronology and character of the site. Detailed excavation was concentrated on a few selected areas of significant features. However, in some cases due to financial pressures it was decided to preserve significant archaeological remains in situ rather than excavate them fully.

A wide range of archaeological features was identified, dating from the Middle Bronze Age through to the late Roman period. Funerary features comprised two Middle Bronze Age ring ditches and a number of Middle Bronze Age and Roman urned and un-urned cremations. A small Late Bronze Age/Early Iron Age structure was excavated and several roundhouses dating to the Middle Iron Age and Late Iron Age/early Roman period. Two late Roman structures were also excavated; the larger was a sunken floored building probably used for crop processing. Numerous boundary ditches were identified, forming rectangular enclosures and a variety of field systems. Two rectangular enclosures dated to the Late Iron Age/early Roman period and the bulk of the field systems to the later Roman period. Other features included hearths, pits, postholes and gullies of various dates spread across the development area. Many features could not be dated or assigned to a site phase.

Survival of archaeological features across the site was variable. Some features were well preserved, but others only partly survived. The levelling of the development area for the construction of the Second World War airfield had led to the truncation of many features. This was particularly apparent in the centre of the site (areas 3 and 4). The truncation had been compounded by modern ploughing and the laying of field drains. Some tree disturbance was noted, though this was minimal given that the area was forested in the medieval period. Recording work in areas 2 and 4 was partly hampered by machinery movement and spoil tip location.

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1 Introduction

1.1 Site location

The site was located at Fairlop Quarry, Hainault Road in the London Borough of Redbridge (NGR TQ 4640 9090) (Fig. 1). The area of archaeological investigations was bounded by Forest Road to the north, Hainault Road to the east and Painters Road to the south. To the west was the active gravel quarry on the site of the former Second World War airfield, now landscaped as a country park..

1.2 The scope of the project

The archaeological investigation of the quarry took place between 1993 and 1999 in a series of stages as the programme of gravel extraction progressed across the quarry. The very large area of the quarry dictated a targeted approach. The archaeological work used a range of methods: plotting and interpretation of crop marks recorded by aerial photography; trenching evaluation of the crop marks; mapping of archaeological features after large-scale topsoil stripping; detailed recording and excavation of selected key features; and watching brief recording. Two stages of archaeological work were carried out in 1993-4 (site code IG-HR93) and 1996 (site code IG-HR96) by the Archaeology Section of the Passmore Edwards Museum, later the Newham Museum Service, and further stages in 1997-9 (site code FLQ97) by Essex CC Field Archaeology Unit. For all stages of the archaeological work funding was available for fieldwork and the production of interim assessment reports, but no provision was ever made for full publication.

1.3 Circumstances and dates of fieldwork

1.3.1 1993 area (IG-HR93)

In 1985 Redlands Aggregates Ltd (now Lafarge Aggregates Ltd) were granted permission by Redbridge Borough Council (permission 793/85) to work part of Fairlop Plain for gravel extraction. As part of this programme a field near Painters Road at the southern boundary of the quarry (Fig. 1, Cell 6), was due to be worked in 1994. This field was known to contain a crop mark enclosure identified from aerial photographs (GLSMR 060416). As planning permission had been given prior to PPG16, Redlands were under no obligation to fund any archaeological work, and English Heritage funded a trenching evaluation carried out by Newham Museum Service in 1993 (Pontin 1993). The evaluation confirmed the existence of the enclosure and English Heritage funded a follow-up rescue excavation, which took place from March to May 1994 (Turner 1994).

1.3.2 1996 area (IG-HR96)

In the spring of 1996, a trenching evaluation was undertaken by Newham Museum Service across the northern end of the quarry (Fig. 1, Areas 1B and 2A). Planning permission had been granted by the London Borough of Redbridge (Application no. 1661.95) subject to the fulfilment of an archaeological planning condition, and the work was funded by Redlands Aggregates Ltd. As a number of crop mark features were known in this area from aerial photographs the RCHME was commissioned to produce a rectified crop mark plan and interpretation report (Carter 1996). This report was used as the basis of the extensive trenching exercise (35 2 x 25m trenches) that took place in late April and May 1996 (Hodgins 1996). An archaeological watching brief was carried out on the topsoil stripping in Areas 1A and 1B and the Haul Road in late August and September 1996 as a second phase to this work (Hodgins 1997). Time and budget limitations meant that Area 2A was not subject to the watching brief although it had been investigated as part of the trenching exercise.

1.3.3 1997 area (FLQ97)

The 1997-9 archaeological work was commissioned by Lafarge Redland Aggregates Ltd and the London Borough of Redbridge in response to a planning condition that required an archaeological watching brief on topsoil removal prior to the extraction of gravel in Areas 2A, 2B, 3 and 4 (Fig. 1). The work was undertaken by the Essex County Council Field Archaeology Unit in three stages and took the form of a watching brief and selected salvage excavation agreed in consultation with the Greater London Archaeology Advisory Service. The first stage took place between September and November 1997 during the topsoil stripping of Area 2A (Gibson 1998) and the second stage between May and October 1998 on Areas 2B and 3 (Dale 1999). The third and final stage took place between August and November 1999 on area 4 and was reported only as a GLSMR summary (Robertson 1999).

2 Historical and archaeological background

2.1 Topography

The geology of the area consists of Pleistocene sand and gravel, above beds of Thanet sand and Eocene deposits of London Clay. The gravels are capped by brickearth deposits, which were laid down at the end of the last Ice Age (c. 10,000 BC). This cap is up to 1m deep in places, the top portion of which has weathered down to form subsoil. There is an outcrop of London Clay in the north and east of the site.

The site forms part of the Fairlop plain located between the rivers Roding and Rom. Within the area of the site, the natural ground surface slopes gently down from east to west. Large areas of the site were levelled off during the construction of an airfield in World War 2.

2.2 Prehistoric/Roman

The southern half of the county of Essex, including the five northeast London boroughs, is extremely rich in both prehistoric and historic archaeological deposits. Fairlop Plain seems to be no exception as a number of crop marks have been revealed upon it, identified from aerial photographs. Recorded on the Greater London Sites and Monuments Record were the crop marks of two probable rectangular ditched enclosures and a smaller oval enclosure in the northern part of the development area (SMR numbers 060953, 060954) and a rectangular enclosure in the south-west of the development area (SMR number 060416).

No excavations had taken place in the development area prior to 1993. However a few sherds of prehistoric pottery and worked flint had been recovered from a Watching Brief undertaken by Mark Redknapp in 1986 to the south and east of the area. In 1991 an excavation by Steve Chew at Goodmayes Hospital to the south of the quarry identified an enclosed settlement of Iron Age or earlier origin. To the east of the project area a linear feature revealed on aerial photographs has been tentatively identified as a Roman road.

2.3 Medieval

During the medieval period most of Fairlop Plain, including the development area, was covered by Hainault Forest. This forest was owned by Barking Abbey and at one time was included in the Royal Forest of Essex, which covered most of the county. Due to partial deforestation, the area covered in woodland shrunk to cover just the southwest of the county. This was known as Waltham Forest, a name that persisted until the end of the 17th-century and encompassed the forests of Epping and Hainault. A crop mark in a field about half a kilometre to the east of the development area has been identified as the medieval Hainault Chapel.

2.4 Post-medieval

The modern place name of Fairlop Plain appears to derive from the “Fair Lop Oak” under the shade of which an annual fair was held, founded by Daniel Day (1682-1767). According to local tradition Day was buried in a coffin made from a branch lopped off the tree. This, far from damaging the tree, proved to be a “Fair lop”.

Under licence granted by Act of Parliament in 1853, the last major section of Hainault Forest was felled. Forest Road, Hainault Road and Hainault Farm all date from around this time. During the First World War an airfield was constructed to the east of Hainault Farm and a Second World War airfield was located to the west of the development area. During the immediate post-war period, Ilford Borough Council bought the land to prevent a possible future London Airport from being sited there.

3 Original research aims

The original aim of the project was to investigate and record a series of crop marks that formed part of an archaeological landscape located across the development area and identified from aerial photographs. This archaeological landscape was under threat from the expansion of existing quarrying activity. The archaeological investigations took a number of forms, including aerial photographic interpretation, excavation, trial-trench evaluation and watching brief.

Additionally, there is a wider research framework that the East London Gravels assessment attempts to address. The aims of this were set out in the project design document (Rowsome 2002).

Fig 1 Site location: Fairlop Quarry

Fig 2 Prehistoric features

Fig 3 Late Iron Age and Early Roman features

Fig 4 Later Roman features

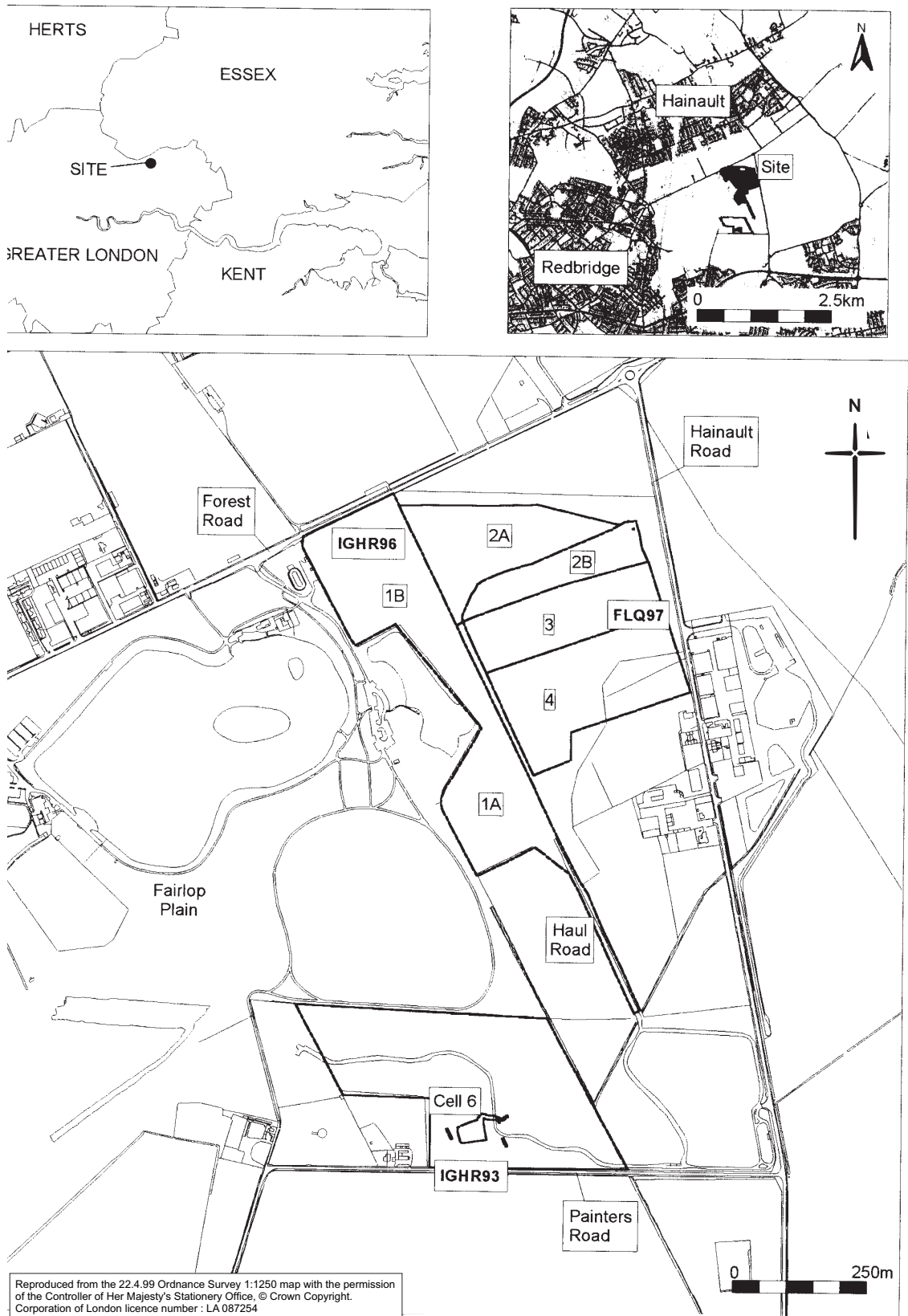


Fig1 Site location: Fairlop Quarry

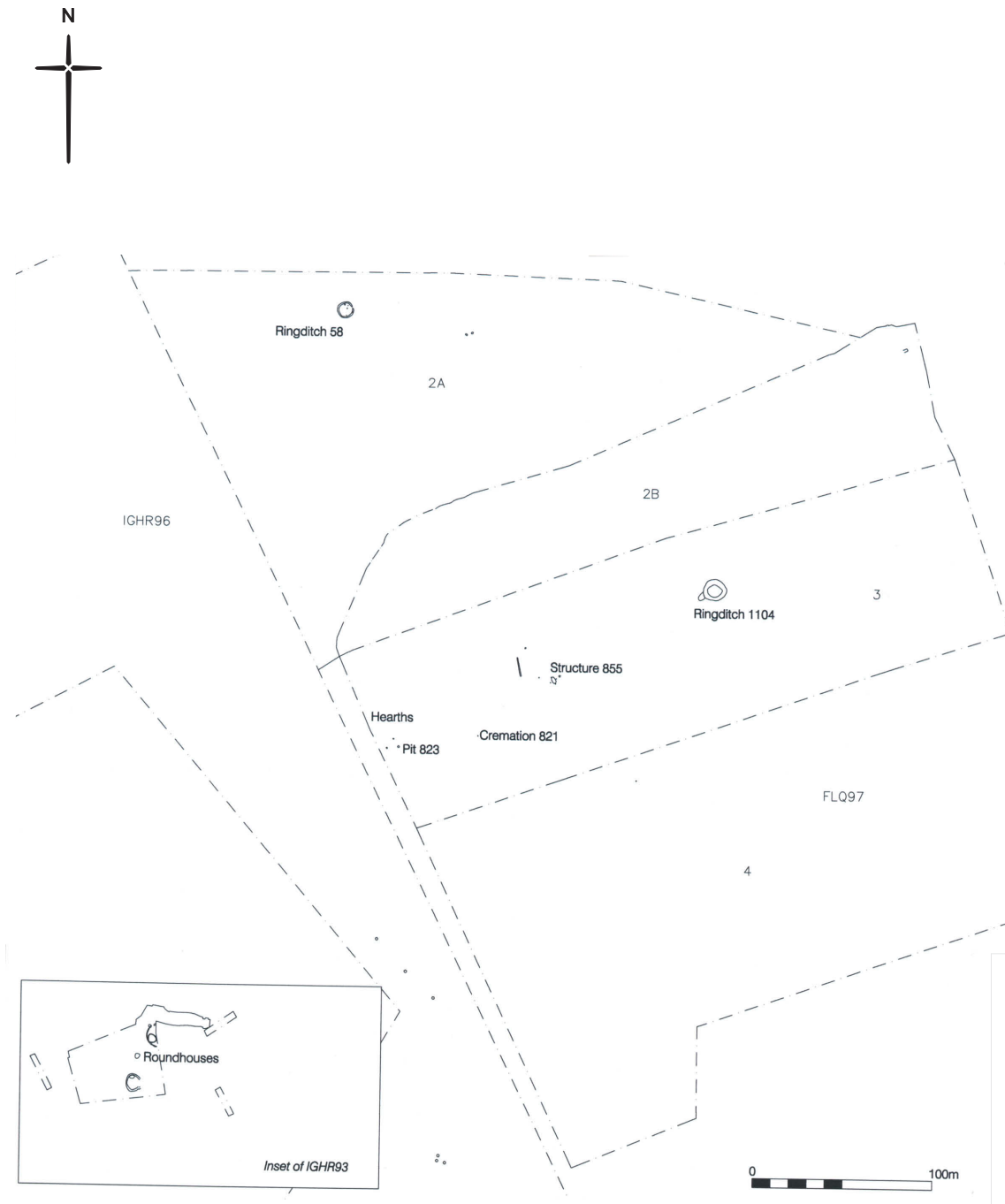


Fig 2 Prehistoric features

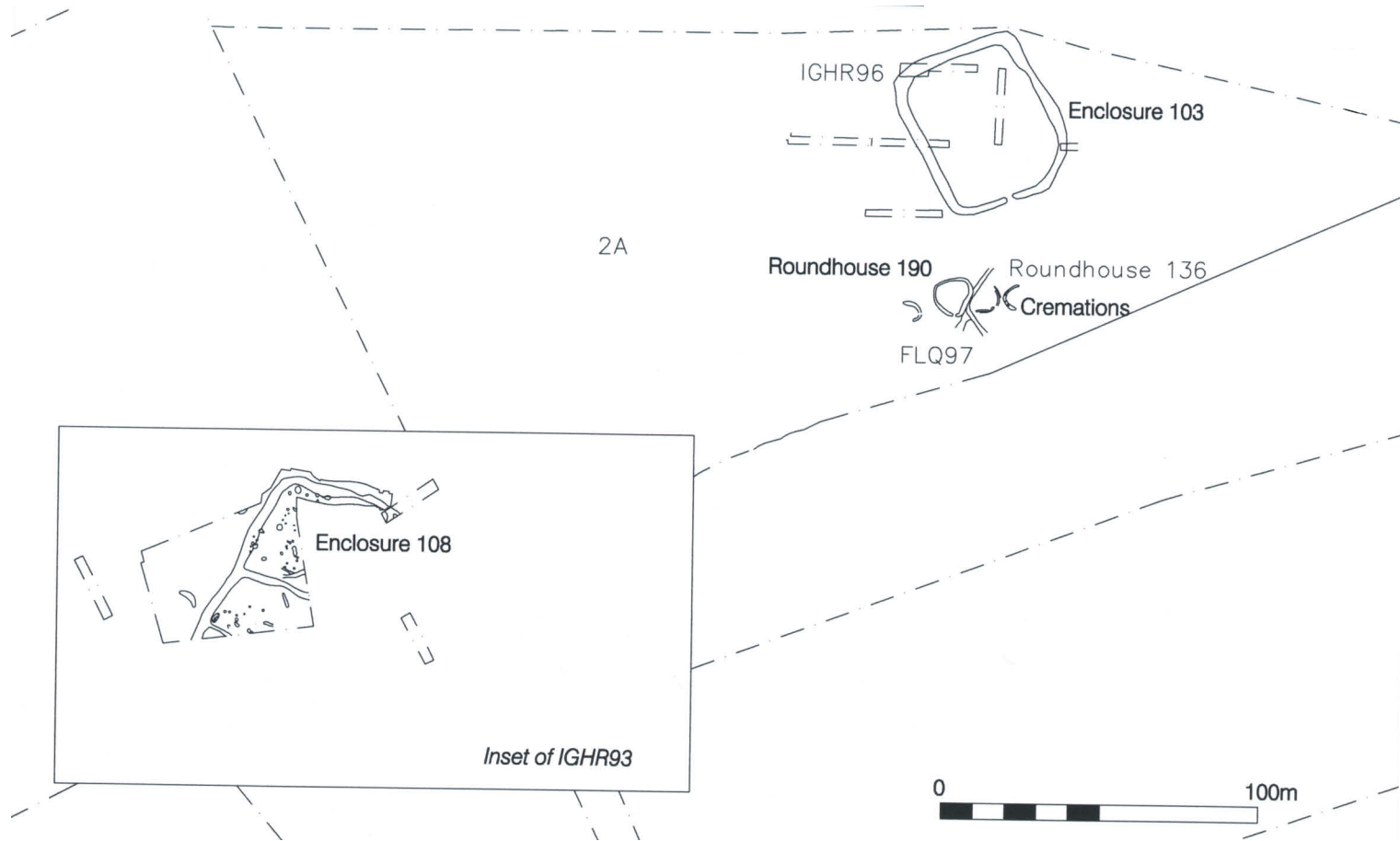


Fig 3 Late Iron Age and Early Roman features

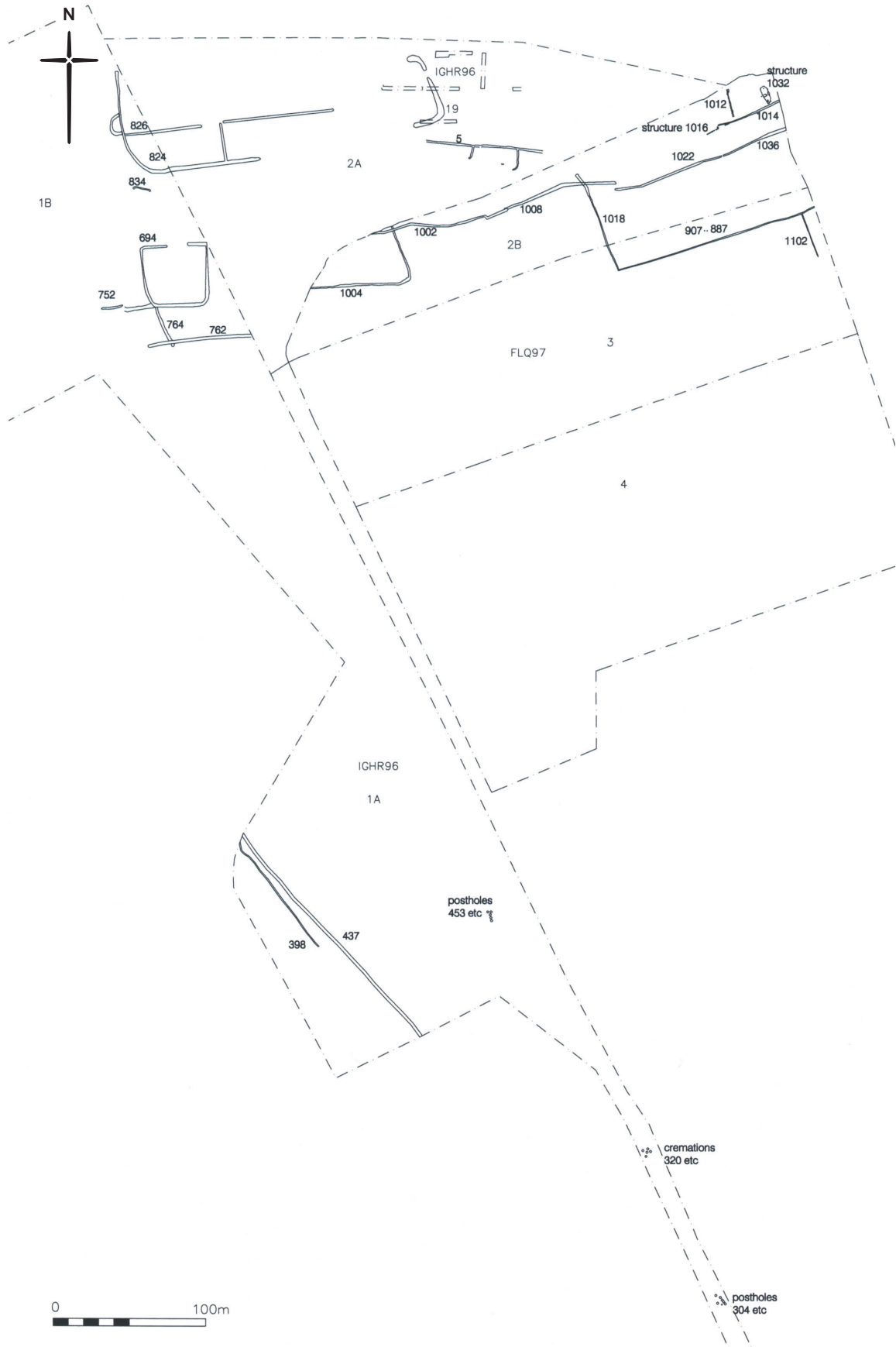


Fig 4 Later Roman features

4 Site sequence: interim statement on field work

4.1 Natural and topography

The underlying natural consists of Thames sands and gravels capped by brickearth deposits up to 1m deep in places. The top portion of the brickearth cap had weathered down to form subsoil. London clay outcropped to the north and east of the area. The natural ground surface sloped gently down from east to west.

4.2 Prehistoric

4.2.1 Middle Bronze Age

Stray finds of worked flint of Late Mesolithic/early Neolithic and Early Bronze Age date represent the only site activity earlier than the Middle Bronze Age. Two Middle Bronze Age ring ditches were investigated. In the extreme north of the site was a shallow penannular ring ditch (58). Located within this ditch were an urned cremation of Deverel-Rimbury type (56) and several other cremations buried without urns. A second, deeper, Middle Bronze Age ring ditch was located further to the south in area 3. This ring ditch (1104) formed a complete circle and contained Deverel-Rimbury type pottery securely dating it to the Middle Bronze Age. The primary fill of the ditch contained pyre debris (a large quantity of cremated human bone, large lumps of charcoal and charred remnants of burnt branches) and was sampled for the assessment of carbonised remains. This deposit has also been selected for radiocarbon dating of charcoal fragments to provide a more precise date for the feature, and as a cross-reference for the dating of Deverel Rimbury pottery. No cremations were identified within the ring ditch and only limited excavation occurred as the decision was made to preserve this feature *in situ*. A single cremation in the west of area 3 is dated by radiocarbon to the Middle Bronze Age (two samples dated to 1690-1450 and 1740-1490 cal BC). A Middle Bronze Age palstave (axe head) was recovered as a residual find in a modern field boundary in area 2b.

4.2.2 Late Bronze Age/Early Iron Age

In the west of area 3 was a structure (855), comprised of a shallow sub-rectangular pit and four associated post-holes (one adjacent to each side). The pit and two of the post-holes contained Late Bronze Age/Early Iron Age pottery sufficient to date the feature. Two hearths (802 and 808) that also contained Late Bronze Age/Early Iron Age pottery were located close to the western limit of area 3; a number of other isolated features (pits, post-holes and a cremation) in area 3 also contained Late Bronze Age/Early Iron Age pottery. This suggests an area of Late Bronze Age/Early Iron Age settlement.

To the north, two Late Bronze Age features (pit 27 and post-hole 64) were identified in the 1996 evaluation trenching in area 2 and to the south, in area 1a, a few poorly dated pits (483 etc) and postholes (435) were identified as prehistoric (Neolithic to Early Iron Age)

4.2.3 Middle Iron Age

Apart from a single rubbish pit (569) located on the haul-road, Middle Iron Age activity was limited to the 1993 excavation area in the southwest of the quarry (Cell 6). Here, two large pennanular features (groups 7 and 8), and a smaller one (group 5), represent the drip gullies or post trenches of roundhouses. A pit or post-hole (group 6) possibly associated with the entrance to the northern roundhouse was also excavated, as were two other Middle Iron Age pits (groups 4 and 9). The southern roundhouse and the rectangular enclosure around the settlement (described below) are thought to have originated in the Middle Iron Age on the basis of residual pottery in their fills. However, the pottery dating of these features needs to be reviewed, as many features contained both Middle and Late Iron Age pottery. The present interpretation of the evidence suggests continuity of settlement in the 1993 area from the Middle into the Late Iron Age, but this will need to be confirmed by detailed analysis.

4.3 Late Iron Age/Roman

4.3.1 Late Iron Age/early Roman

The rectangular enclosure excavated in the 1993 area (Cell 6) was dated on the pottery evidence to the Late Iron Age/Roman period. The enclosure was broadly rectangular in plan and consisted of an outer boundary ditch (group 10) and two internal ditches (groups 13 and 14). A ditch (group 12) joined to the northeast corner of the enclosure continues eastwards across the area as a crop mark. A number of pits, post-holes and gullies within the enclosure were dated to this period. Some of the pits and post-holes (groups 22, 41, 46, 49 etc) form possible structural alignments, though most have been identified post-excavation. The enclosure appears to have gone out of use by the late 1st-early 2nd century AD when a series of cremation burials (groups 53, 55, 57 and 58) are deposited in the top of the infilled ditch. One cremation burial (group 55, context 130) contained alignments of iron nails possibly indicating the presence of a wooden box.

In the north of the site, in area 2, a rectangular enclosure (108) originally identified as a crop mark was trenched in 1996 and found to date to the Late Iron Age/early Roman period. Several other pits and ditches dating to this time were recorded around the central enclosed area. The enclosure ditch was recut in the 1st-2nd century AD before going out of use by the end of the 2nd century. A second enclosure to the west may have been dug in the early Roman period (perhaps when the eastern enclosure went out of use), but the dating is poor. This western enclosure ditch appeared as a crop mark and was of similar dimensions, though truncated to the west and found on excavation to be much shallower in depth. These enclosures were initially investigated by trial trenching and subsequently preserved *in situ*. It is impossible to tell from the limited trenching whether these enclosures contained buildings, or were agricultural or livestock enclosures.

Broadly contemporary with the eastern enclosure and located to the south were five shallow, curvilinear features measuring between 6m and 10m in diameter. These are believed to be the truncated remains of roundhouses (drip gullies or post-trenches) and other structures, and are dated to the Late Iron Age/early Roman period. At a later date in the early Roman period these roundhouses appear to go out of use and the

area is used for a small number of cremation burials. Some of these (124,128,130) are deposited in the top of an infilled roundhouse trench (136). A small group of early/mid-Roman cremations was excavated in the east of area 3. Two of these are dated by radiocarbon to the late 1st to early 3rd centuries.

To the west of the area, it was suggested in the original evaluation report (Hodgins 1996) that trenches across some of the crop marks in area 1b provided evidence of the possible early Roman origins of these field systems. However, recent spot dating tends to indicate a later Roman date for the setting out of these fields and enclosures.

4.3.2 Later Roman

In the north of the site, the partially surviving western enclosure in area 2 appears to have been re-cut in the late 3rd-4th century. Elsewhere, the majority of the ditches forming the field systems in areas 1, 2 and 3 all date to the later Roman period. To the west the rectangular field enclosure (694) in area 1b was dated to this period. A number of undated pits within this enclosure and nearby may be associated. To the north the curved western side of another possible ditched enclosure (824) produced pottery of 3rd century and later date.

Extending off of the northeast corner of enclosure (694) was a boundary ditch that extended eastwards across the site through a number of evaluation trenches, and continued ditch right through area 2b, where it was further defined and excavated (ditch 1002,1008, 1022 etc) as part of the later ECC fieldwork. This ditch formed a significant boundary, as enclosures and fields extended both north and south of it. There were variations in the date ranges provided by the finds for some of the component ditches. For example, ditch 1000 is dated as 3rd-4th century and ditch 1018 as 2nd-3rd century suggesting the field system developed through time with additions, alterations and re-cutting of boundary ditches.

The watching brief in area 1a identified two roughly parallel late Roman boundary ditches (437 and 396/398) aligned north-west/south-east. The eastern ditch (437) was larger and it is likely that the western ditch (396/398) had been truncated to the south. These boundary features might represent a drove-way and are on a noticeably differing alignment to the field systems to the north.

Several late Roman cremation burials (320, 357, 359, 361, 364) were excavated at the northern end of the haul road. The fills comprised black ashy deposits with significant burnt bone and traces of degraded wood (though no metalwork). One burial (361) contained sherds of an entire late 3rd+ storage vessel. Towards the south of the haul road was a group of late Roman rubbish pits (302, 350, 569 etc) and in area 1a a T-shaped group of post-holes (453, 455, 457, 459, 461). Which contained burnt and degraded wood and corroded nails and formed part of a timber structure.

Structural evidence was also found within an enclosure in the northeast corner of area 2b. This comprised a shallow sub-rectangular feature (1032) and eleven related post-holes identified as a sunken-floored structure dating to the late 2nd to mid-3rd century. Fragments of lava quern and carbonised plant remains recovered from the fill suggest crop processing was taking place. The structure was probably a roofed working hollow rather than a dwelling. Environmental samples were taken of the carbonised plant remains and are assessed below. To the west, a possible timber

structure of late Roman date might be associated with pit (413) at the eastern end of ditch 1016.

4.4 Post-Roman

No Saxon or medieval features or artefacts were found, although a few sherds of post-medieval pottery were recovered. This is perhaps not surprising as the site lay in the area of Hainault Forest throughout the medieval and post-medieval period. However, radiocarbon dating of pit 843 in area 3 produced dates of cal AD 900-1160 and 1020-1220. Originally thought to be a cremation, this feature is most likely a crude sunken hearth, representing some minimal evidence of activity within the forest.

5 Quantification and assessment

5.1 Post-excavation review

Site Matrix - checked for IGHR93 and IGHR96, no matrix for FLQ97 but relationships checked.

Subgrouping - IGHR93 grouped, IGHR96 and FLQ97 mainly individual features but some grouping where necessary (e.g. segments through boundary ditches)

Digitising of plans - all done

Photographs cross referenced and indexed – all done

Provisional ceramic dating done - yes

Work on finds, environmental etc? (ie in appropriate specialist assessment) - yes

Coins - 1 coin 93 1st-2nd? Roman

C14 - 4 samples being assessed from FLQ97 area 3

At the next step of analysis the provisional dating and the group structure will need final checking.

5.2 The site archive and assessment: stratigraphic

Type	Description	Quantity	Notes
Contexts	Eval/Excavation	279	(1-27, 101-352)
Plans		197	Total of plan & section drawings
Sections		Inc. in above	
Matrices		yes	
Photographs		12 films 12 films	Col B/W

Table 1 Stratigraphic archive IGHR93

Type	Description	Quantity	Notes
Contexts	Evaluation/WB	798	(1-250, 300-847)
Plans		175	Small sheets
Sections		33	Small sheets
Matrices		yes	
Photographs		16 films 16 films	Col B/W

Table 2 Stratigraphic archive IGHR96

Type	Description	Quantity	Notes
Contexts	Watching Brief/ Excavation	1104	(1-204, 210-733, 800-1107, 1150-1217)
Plans		74	
Sections		30	
Matrices		no	
Photographs		Col 7 films B/W 5 films	

Table 3 Stratigraphic archive FLQ97

5.3 Site archive and assessment : finds and environmental

	IGHR 93	IGHR 96	FLQ 97
Ceramic Building Material/ Daub	0.5 box	1 box	2.5 boxes
Prehistoric pottery	1 box	1 box	1 box
LIA/Roman pottery	7 boxes	3 boxes	7 boxes
Medieval/post-med. pottery	0.5 box	-	-
Worked flint	0.5 box	0.5 box	0.5 box
Burnt flint	0.5 box	0.5 box	0.5 box
Quern	-	-	0.5 box
Accessioned finds	34 small Finds	75 small Finds	10 small Finds
Bulk Soil Samples	46	44 + 2 columns	30
Animal Bone	0	0	0
Human Bone	2 contexts	0	20 contexts
Radiocarbon Dating			8 samples analysed 4 samples for analysis

Table 4 Finds and environmental archive: general summary

5.3.1 Prehistoric pottery

5.3.1.1 IG-HR 96

Charlotte Thompson

5.3.1.1.1 SUMMARY/INTRODUCTION

The assemblage from the 1996 area is assessed in this section. The assemblage from the 1993 area has previously been assessed by Pamela Greenwood (in Turner 1994), and that from the 1997 area by Nigel Brown (in Dale 1999); their assessments are included below. The assemblage was recorded according to the guidelines set out by the Prehistoric Ceramics Research Group (PCRG 1995). The sherds were examined with a x20 binocular microscope and recorded by fabric form and decoration where appropriate. The pottery was also quantified by sherd count and weight.

5.3.1.1.2 FABRICS

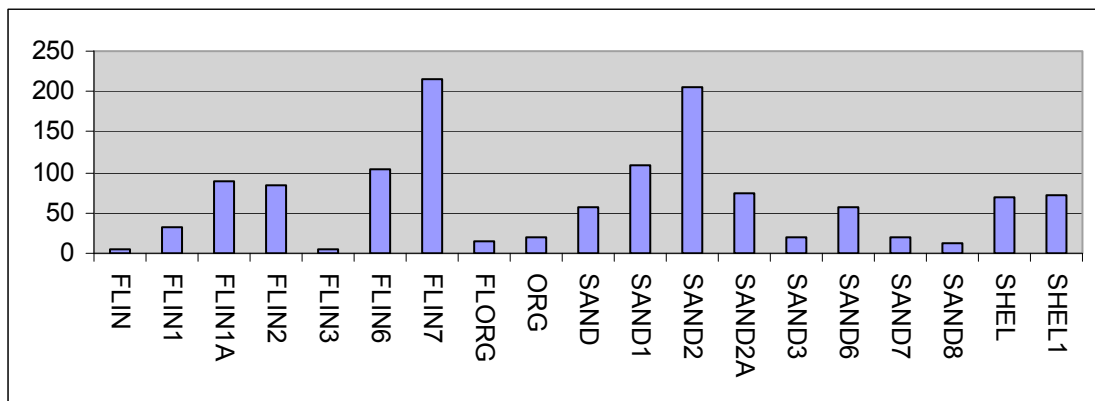


Fig 5 Prehistoric pottery: quantification by weight

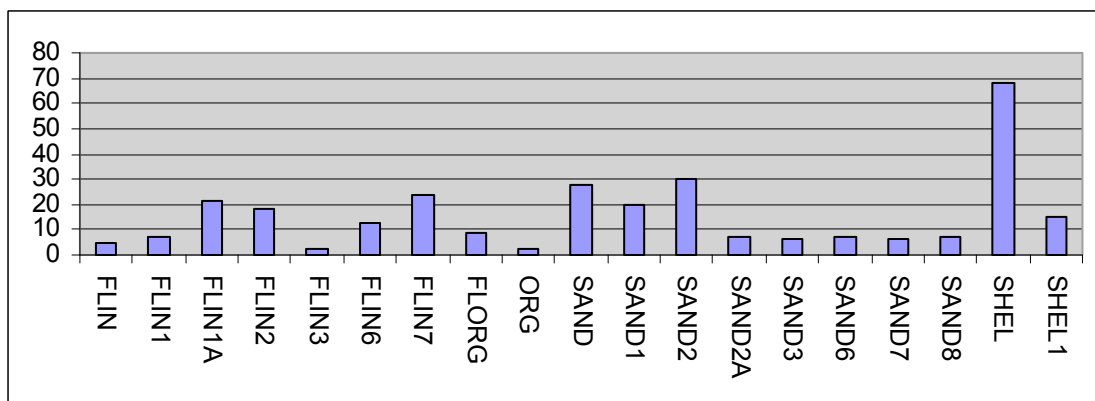


Fig 6 Prehistoric pottery: quantification by sherd count

By sherd-count, the individual fabric that accounts for the largest proportion of the assemblage is SHEL, unidentified shell-tempered ware (23%), but by weight this only makes up 5% of the assemblage. This is because the fabric has a tendency towards a

laminar fracture, and context [26] contains some 64 fragmentary sherds that weigh under 1g each.

There are slightly more sand-tempered fabrics in the site assemblage, 44% of the assemblage by weight is sand-tempered, and 38% by sherd count. However, 42% of the assemblage by weight is flint-tempered, although by sherd count just 30% of the assemblage is flint-tempered.

A glauconite-rich fabric, SAND6, which is similar to Little Waltham Fabric A (Drury 1978, 56), makes up 2% of the assemblage by sherd count and 5% by weight. The low sherd count is most likely to be due to the sherds either being quite large or reconstructed (and therefore counted as a single sherd), as this fabric is used for fine ware vessels.

5.3.1.1.3 FORMS AND DECORATION

The average sherd is 4g, which reflects the fragmentary nature of the assemblage. Most of the sherds are plain body sherds, with the exception of some profiles.

Context [117] and [228] contain sherds similar to form 13 from Little Waltham, everted-rim vessels with a footring base (Drury 1978, 54). Context [228] also contains an 'S' shaped jar. In context [224] there is a form whose profile is closer to Little Waltham form 11, a vessel with a slack 'S' profile with an everted rim (*ibid*, 54), although it has a footring which is one of the defining features of form 13. This vessel is made from SAND6, a glauconite-tempered fabric, which is the more usual fabric that form 13 is made from at Little Waltham (*ibid*, 56). Whichever form this vessel is, both Little Waltham form 11 and form 13 are dated on associated radio-carbon dates from the site primarily to the late to mid 3rd century BC, the Middle Iron Age. There are no decorated sherds in the assemblage from the 1996 area.

5.3.1.1.4 DISCUSSION

This is a relatively small assemblage, and much of the material is made up of small plain body sherds. The majority of this site is fragmentary in nature, but the profiles that are present are Middle Iron Age in date. Whilst the form sherds indicate a Middle Iron Age date for some of the material, on fabric parallels, one context is Late Bronze Age and there are a number of Late Bronze Age or Early Iron Age contexts. However, as 23 of the 34 contexts contain less than three sherds, dating for these is speculative.

5.3.1.2 FLQ 97

Nigel Brown

The excavation of the 1997 area produced approximately 600 sherds of prehistoric pottery, mainly derived from the ring-ditch [1104], structure [855] 75m to the west of the ring-ditch, and a group of smaller features west of [855]. The material from the ring-ditch comprised coarse flint-tempered body sherds, sherds of flat bases and some rim sherds of bucket urns. This pottery is of Deverel-Rimbury character and Middle Bronze Age date, comparable to material from elsewhere in south and central Essex (Brown, 1995a). The remaining pottery includes a range of bowls and jars, both coarse and fine, typical of Early Iron Age, or possible Late Bronze Age date. The fabrics present (coarse and fine flint-tempered fabrics, with some sand-tempered material) correspond to such a date range (Brown, 1995b). There are a number of reconstructible forms and further study may clarify the date of this pottery. Spatial

analysis using the entire site assemblage of prehistoric pottery would indicate specific areas of activity.

5.3.1.3 IG-HR 93

Pamela Greenwood

A small but readily identifiable number of sherds can be definitely assigned to the Middle Iron Age, notably fine glauconite type slack S-shouldered bowls and their imitations in other sandy fabrics. It is likely that a number of the coarser sandy hand-made fabrics and those with sand with a little flint temper are the corresponding coarse wares. Parallels can be seen, for example, with the assemblages at Mucking, Moor Hall Farm, Rainham, Uphall Camp, Ilford, Marks Gate, Dagenham and elsewhere in Essex and Kent. None of the sherds is decorated.

Middle Iron Age sherds occur in small numbers in the pennisular gullies of the two roundhouses (contexts [116], [286], [290], [230] and [235]) as well as in two pits (contexts [225] and [237]) and the enclosure ditch (e.g. context [210]). Those groups from the two pits may be purely Middle Iron Age, but in the roundhouse gullies the Middle Iron Age sherds are mixed with Late Iron Age/early Roman material. The latter is either intrusive or indicates a long life-span for these features.

5.3.2 Worked flint

Louise Rayner with Hazel Martingell

5.3.2.1 Summary/Introduction

The worked flint from these the 1993 and 1996 areas (IG-HR93 and 96) was assessed and quantified by number and weight. The flints were identified according to tool or waste type and, where possible, assigned a general date. No re-fits or utilisation was noted. The flints were weighed by individually for inputting into the MoLAS database. The flints from the 1997 area (FLQ97) have been rapidly scanned but not recorded; very few worked flints were present, with only one diagnostic piece.

5.3.2.2 IG-HR 93 & 96

The worked flint comprised 6 items, weighing 22g. Flint colours ranged from light to medium grey-brown and dark brown. Although of a good quality, the flint all appears to have originated from a secondary, probably river gravel source.

The earliest items in the small assemblage comprised a retouched blade (577) and a core rejuvenation flake from a blade core (300), both of which were of probable Later Mesolithic to Early Neolithic date. A barbed and tanged arrowhead dating to the Early Bronze Age (405/214) was also recovered, and three undatable, but probably Later Neolithic to Bronze Age, flakes, one of which was retouched (26). No obvious traces of utilisation were noted on any of the material.

5.3.2.3 FLQ 97

A barbed Early Bronze Age arrowhead (<105> U/S) was also recovered from an unstratified context, but the remainder of the 1997 assemblage included very few worked pieces. These have been scanned and no further tools were identified, although a basic record of this material needs to be made. A larger quantity of burnt flint can be counted, weighed and discarded.

5.3.3 Late Iron Age/Roman pottery

T. Scott Martin

Site code	Sherds (no)	Weight (kg)
IG-HR93	973	9.1
IG-HR96	781	8.0
FLQ97	2535	16.9
Total	4289	34.0

Table 5 Late Iron Age/Roman pottery: summary

5.3.3.1 Introduction/methodology

A total of 4289 sherds of Late Iron Age and Roman pottery, weighing 34kg, was recovered from a total of 197 contexts in three separate stages of excavation. The first area (IG-HR93) was self-contained and lies some distance from the other areas, which overlapped and should be treated as a single entity (IG-HR96 and FLQ97). Thirty-two fabrics or fabric groups were recorded (excluding samian). Finewares are a comparative rarity in an assemblage that contains few continental imports, and few Romano-British regional wares in any period, although there is a relatively strong showing for Oxfordshire red colour-coated ware from FLQ97.

The pottery was recorded with reference to the Chelmsford typology (Going 1987) and for the Late Iron Age forms, the *Camulodunum* series (Hawkes and Hull 1947). The whole assemblage has been recorded on proforma sheets and data-entered onto spreadsheets that have been imported into the Museum of London Oracle pottery database to allow compatibility between London and Essex assemblages. The aim was to provide an overview of site chronology as well as to identify the presence of large securely dated groups. The assemblage consists mainly of small groups (less than 30 sherds) with very few medium (30-100 sherds) or large groups (100 sherds or more). Consequently, the pottery from the site offers little scope for detailed analysis. The main importance of the pottery is to provide dating evidence, although even here over half the assemblage is not closely datable.

5.3.3.2 IG-HR 93

For IG-HR93 the bulk of the contexts fall within a Late Iron Age or early Roman date-range. The main enclosure ditches ([108], [140], [169], [214]; fills [106], [139], [178] and [269]) each produced assemblages dominated by grog-tempered and South Essex shell-tempered ware. The best dating evidence came from ditch segment [108]. Fill [106] contained a medium-sized group composed entirely of fabrics and forms that suggest a pre-conquest date, although pottery from the other fills pushes the date range into the post-conquest period and beyond. Fill [107], which is sealed by [106], produced a small and fragmentary group that also contained some post-conquest material, while fill [139] contains a small amount of black-surfaced ware. Fill [178] also contains a small sherd of late shell-tempered ware, but this piece is considered to be intrusive. Context [169] produced the smallest group and also the most fragmentary; the latest sherds are all very small and again could be intrusive. The

enclosure ditch probably originated in the Late Iron Age and silted up in the early Roman period, as demonstrated by the presence of early Roman cremations in the top of the ditches. Although all of the pottery from these features is very fragmentary, there was sufficient dating evidence to suggest an early/mid 2nd century date for at least one cremation ([130]).

Late Iron Age/early Roman pottery was recovered from the fills of round-house ditches [116]/[286] and [230], which also contained small amounts of pottery dated to the Middle Iron Age. These features are dated by relatively small amounts of Late Iron Age pottery, however. Roundhouse [116] produced 39 sherds weighing 724g, while [230] produced just 10 sherds weighing 182g. Most of the identifiable forms comprised *Cam 254* type jars that are 1st century in date. The overall evidence may indicate a prolonged filling of the ditches from the Middle Iron Age into the Late Iron Age/early Roman period.

A small amount of mid/late Roman pottery was recovered from IG-HR93, dated on the presence of fragmentary long-lived forms, or rims that are so fragmentary they could belong to either a G5 lid-seated jar or the E2 lid-seated bowl-jar. Late and Roman contexts are absent. High levels of residual material also tend to be present in contexts that are not Late Iron Age/early Roman date. Consequently, the area covered by IG-HR93 exhibits a relatively short chronology compared to the other areas.

5.3.3.3 IG-HR 96 & FLQ 97

In the IG-HR96 and FLQ97 areas there are few early features, and most of the pottery can be dated to the mid-2nd to 4th century. In the north of the IG-HR96 area, enclosure ditch [103]/[117]/[87] produced fairly consistent early dating evidence, containing Late Iron Age/early Roman material dated to the 1st to mid-2nd century (especially fills [44], [45] and [220]). Occasional later sherds are found in the top fill of the enclosure ditch, after it had almost entirely silted. Late Iron Age/early Roman pottery was also recovered from roundhouse ditches in the north of the FLQ97 area, but these groups are generally small and fragmentary.

Pottery from field and enclosure ditches in both the IG-HR96 and FLQ 97 areas suggests that the main period of activity occurred from the mid-2nd to 4th century. Although there is some earlier material in the ditches, the quantities are not large. The FLQ97 area in particular produced a significant quantity of very late material in the form of late shell-tempered ware and Oxfordshire red colour-coated ware; neither of these fabrics occur in Essex prior to *c. AD360/70*. The relatively high proportion of late material, especially at FLQ97, suggests a distinct late phase of activity. Some pottery from the watching brief along the west of the IG-HR96 area was not recorded (contexts in the 300 number series), but previous spot dating by Pamela Greenwood confirms a general mid-2nd to 4th century date for the activity. This includes a late Roman cremation group, including a complete vessel that has been drawn ([360]).

5.3.3.4 Archive

The pottery from site FLQ97 has been boxed in context number order and has been separated from material of other periods. Each context is stored in a self-seal bag and has been divided into fabrics, which are then bagged separately. For IG-HR93 and IG-HR96, the original bagging of the pottery was carried out in accordance with

earlier standards and is now inadequate and inconsistent with modern practice. The Late Iron Age and Roman pottery from these excavations ought to be bagged and boxed separately from pottery of other periods and thus brought up to the same standard as that already in place for FLQ97.

5.3.3.5 *Assessment work outstanding*

A small amount of pottery from the IG-HR96 300-399 context number range (c. 20 contexts) was not submitted for assessment. The spot-dating record for these contexts should be completed.

5.3.3.6 *Pottery to be quantified*

There are no groups that warrant further quantification.

5.3.3.7 *Pottery to be illustrated*

A complete vessel from IG-HR96 context 360 has already been illustrated. Four near-complete vessels from fill 45 of IG-HR96 enclosure ditch 103 also justify illustration, as this is a key dating group. About ten vessels from cremation groups also justify illustration if they can be reconstructed.

5.3.4 *Post-Roman pottery*

Lyn Blackmore

5.3.4.1 *IG-HR96*

Saxon pottery (unstratified)	1 sherd	1 ENV	14g
Post-medieval pottery (stratified)	10 sherds	9 ENV	103g

Table 6 *Post-Roman pottery: summary*

5.3.4.2 *Saxon pottery (c. AD 400–1000)*

5.3.4.2.1 INTRODUCTION

Possible Saxon sherds were recorded in three contexts in the original spot-date record for the 1996 work, plus one unstratified. Of these the unstratified sherd and two sherds from pit [306] were found; those from [564] and [570] need to be located and checked.

5.3.4.2.2 METHODOLOGY

The pottery was examined macroscopically and using a binocular microscope (x 20) where appropriate, and recorded on paper and computer using standard Museum of London codes for fabrics, forms and decoration. The numerical data comprises sherd count, estimated number of vessels and weight.

5.3.4.2.3 FABRICS

The unstratified sherd is in a sandy chaff-tempered ware (CHFS). The other fabrics in ([306]) are unknown and may prove to be Late Iron Age. Pit 306 is dated to the late Roman period, and the Late Iron Age sherds would be residual.

5.3.4.2.4 FORMS

The one sherd recorded is a body fragment from a jar.

5.3.4.2.5 DISCUSSION

Little can be said about the possible Saxon material until it has been determined how many sherds are present. The two sherds from [306] are probably of Iron Age date, residual in a Late Roman feature.

5.3.4.3 *Post-medieval (c. 1500–1900)*

5.3.4.3.1 SUMMARY/INTRODUCTION

A small amount of post-medieval pottery was recovered from the watching brief work in areas 1a and 1b and the haul road. The original bulk finds record lists two sherds found in contexts [303] and [307] (total 20gm), but these were not spot-dated, and were not found. Single sherds were, however, found in [3]/[4], while two sherds were found in [209] and two in [216].

5.3.4.3.2 METHODOLOGY

The pottery was examined macroscopically and using a binocular microscope (x 20) where appropriate, and recorded on paper and computer using standard Museum of London codes for fabrics, forms and decoration. The numerical data comprises sherd count, estimated number of vessels and weight.

5.3.4.3.3 FABRICS

The fabrics that were recorded comprise Normandy stoneware (NORS, [209]), London stoneware (LONS, a stamped jar in [216]), English stoneware (ENGS, [3]/[4], refined whitewares (REFW, [101]) and a green transfer-printed ware plate (TPW3, [216]).

5.3.4.3.4 FORMS

The forms present comprise storage vessels and a plate.

5.3.4.3.5 DISCUSSION

As there is currently no stratigraphic data it is not possible to check the nature of the contexts in which the pottery was found.

5.3.4.4 *Assessment work outstanding (all periods)*

The pottery boxes from this site are not numbered. So far five boxes have been examined. The possible Saxon pottery from the 1996 contexts [564] and [570] needs to be located and checked, as does the post-medieval pottery from [303] and [307].

5.3.5 ***Building materials***

Ian Betts

5.3.5.1 *Introduction/methodology*

A selection of building material from the 1993 and 1996 areas (IG-HR93 & 96) has been recorded using the standard recording forms used by the Museum of London. This has involved fabric analysis undertaken with a x10 binocular microscope. Some, but not all, building material record sheets have been added to the Oracle database. The 1997 (FLQ97) material has only been scanned.

5.3.5.2 *IG-HR93 - Iron Age Belgic Brick?*

There are small fragments of what may be so-called Belgic (fabric group 3264) from contexts [1], [3/4], [20] and [253]. There are small fragments of fired clay from other

contexts but these could be loom weight or something similar rather than Belgic brick.

5.3.5.3 *IG-HR93 - Iron Age/Roman daub and keyed daub walling*

There is a considerable quantity of small featureless daub from a number of contexts. One fragment from [139] however has a number of depressions in the top surface.

5.3.5.4 *IG-HR93 & 96 - Roman ceramic building material*

5.3.5.4.1 FABRICS

Early Roman fabrics

2815 group

Late Roman fabrics

2459B

Undated fabrics

2459

These are abraded tiles from [56], [570] and [577] lacking their moulding sand which could be either 2459A in the 2815 group or later tiles in fabric 2459B.

5.3.5.4.2 FORMS

Roofing tile

Roofing tile (tegulae and imbrices) in fabric group 2815 and 2459B are present in contexts [300], [306], [395], [400](?) and [693].

5.3.5.5 *FLQ97 – Roman ceramic building material*

There is a small and highly fragmented assemblage of Roman brick/tile, mainly from the area of the enclosures and agricultural buildings in the north of the 1997 area (FLQ97). This assemblage is not worth detailed analysis, but a basic record and a distribution plot may be useful. The small quantity of fragmented Roman brick/tile found in the adjacent 1996 area (IG-HR96) should be recorded together with the brick/tile assemblage found nearby in the north of the 1997 area.

5.3.5.6 *IG-HR93 - Post-medieval stone and ceramic building material*

A few fragments of roofing slate, peg-tile (fabrics 2271, 2276, 2587), pantile (fabric 3202) and mid-17th to 18th century red brick were recovered from topsoil.

5.3.6 *Quern stones*

Hilary Major

Nine lava and two grit/Millstone grit quern fragments were recovered from Roman contexts at the north end of the 1997 area (FLQ97), and are recorded on a spreadsheet. Much of this material is in poor condition, but a small group of lava fragments, including two upper stones with kerbs and a possible lower stone, were recovered from Structure 1032, in association with charred grain (see plant macrofossils assessment). This evidence suggests crop processing was taking place in the structure. Two joining pieces of lava quern came from two early Roman contexts in the 1993 area (IG-HR93), and no querns are known from the 1996 area (IG-HR96).

5.3.7 *Accessioned finds*

Angela Wardle

The site was investigated in three main stages, and three separate archives were created, each with its own site code and context number series. There is some duplication of context numbers (the context numbers for each archive starts at 1).

Site area	Accessioned finds
IG-HR93/96	27
FLQ97	19
Total	46

Table 7 Accessioned finds: summary

IG-HR93/96 FLQ97	pre/I Age	Roman	Med	P-med	unknown	total
Stone	1	3			2	6
Ceramic	13					13
Iron		15			1	16
Copper	1	2			1	4
Glass		4		1	1	6
Other				1		
Totals	15	24	0	2	5	46

Table 8 Accessioned finds: summary by material and period

5.3.7.1 Introduction/methodology

A report exists for the 1993/4 area (IG-HR93) with a finds summary by P Greenwood. This, together with the conservation report describes the metal finds in detail, but it is unclear how many other finds (fired clay etc) were registered and no finds list was located in the archive documentation lodged with MoLAS. The highest finds number listed in the conservation report is 132 but the metals end at SF 34. Many of the earlier numbers are ceramic vessels and other pottery from cremations; these have not been recorded on the database. The quantification in Table 8 shows objects located, identified and entered on to the Oracle database.

There were few finds from the areas investigated in 1996 (IG-HR96) and 1997 (FLQ97), which have been included here. The IG-HR96 finds have been accessioned in the same series as IG-HR93, starting at SF 200 as it is not clear how many objects were originally accessioned. Eleven registered finds were recovered from areas investigated in 1997-9 (FLQ97). Further rapid examination (by AW) of these and the bulk material has resulted in some discards and some additional accessions (loomweights for example), which have now been entered on the Oracle database. Although most are of little individual significance and could be treated as part of the bulk finds assemblages, the presence of modern material can help to define residuality or intrusion.

5.3.7.2 Categories by dating and materials

Stone

IG-HR93/96

A stone bracelet made from a jet-like material came from the 1996 area (SF<201> [577]). This roughly carved on both flat faces and is of 3rd/4th century date.

FLQ97

Two lava quern fragments from the bulk material were accessioned (see Querns assessment by H Major). A Bronze Age barbed flint arrowhead (SF <105> [214]) was recovered from topsoil.

Glass

FLQ97

Three small fragments of Roman glass vessels were recovered and have now been accessioned, one a bottle (SF<112> [1001], the others fragments of unidentified colourless vessels (SF <113> [431], <114>[717]).

Ceramic

IG-HR93 & 96

From the 1993 area, one triangular loom weight (SF <26>, [167]) was located from the original accessions, and belongs to grave 104, dated to the Late Iron Age/early Roman period. Four more were recovered from the bulk material and building material, but the Level III report suggests that there should be others. Weights are reported to have come not only from this context, but also from early Roman pit fill [247] and possibly also from undated context [240]. Three 'brick' fragments were recovered from the building material, which was not fully examined.

FLQ97

Fragments of three loom weights were recovered from the fills of a group of Late Bronze Age/Early Iron Age rubbish pits in the west of the area (<115> [828], <116>[846] and [848] {not seen-AW}). Daub/fired clay was recovered from about 40 other contexts, and although much of this is fragmentary, it should be scanned for further examples of loom weights or other artefacts. cursory examination has identified three fragments of weight or other fired clay object (now accessioned).

Composite

A glass intaglio <3> set into a copper alloy mount is of 19th century date. The design is a very naturalistic male head seen in profile, facing left.

Iron

IG-HR93/96

One Roman cleaver was found, SF <22>, context [167]. SF <1> (Tr 5) although flaking badly, appears to from the tip of a very solid tool or weapon, probably a spear. The remaining ironwork consists of 12 nails from two contexts [129] and [172] and Greenwood plausibly suggests that these may have been from a wooden casket associated with Burial [130], the feature in which they were found. Three objects accessioned as nails proved on x-ray to be fired clay fragments.

Miscellaneous iron fragments and copper alloy objects were recovered from the topsoil. These all appear to be modern and have not been given individual accession numbers. They were originally 'bulk' accessioned as SF 33 and SF 34; these have not been put on to the database.

FLQ97

Twenty-one iron objects were recovered from the 1997 area, in poor and fragmentary condition. Most were nails and unidentifiable strips, and mainly came from Roman contexts. At least one object appears to be part of a modern farm implement. Most of the iron from the 1997 area has not been X-rayed or catalogued, although selected items have been accessioned, put on the Oracle database and set aside for X-ray. Groups of small iron fragments from contexts 245, 820, 906, 910 came from samples and should be accessioned and x-rayed if the contexts prove to be of significance.

Copper alloy

IG-HR93/96

An illegible coin, SF <132> appears to date from the 1st/2nd century. A second coin (?found in 1996) is a radiate of late Roman date (?3rd century).

FLQ97

A Bronze Age copper-alloy palstave (<110>) was found in a modern field boundary ditch.

5.3.7.3 *Summary: dating, function and provenance*

The finds from IGHR93/6 range in date from Late Iron Age to late Roman, but this is a very small assemblage and the earlier report suggests that the finds assemblages are mixed and redeposited. It has not been possible at this stage to locate and quantify the Late Iron Age material and loom weights. The stratified Roman finds consist chiefly of nails, which as has been observed in the report (Greenwood in Turner 1993, 72) may come from a single box, perhaps from a cremation. The coins date from the ?1st and 4th centuries, demonstrating early and late Roman presence but little else, although late activity is also suggested by the jet bracelet <201> [577] corroborated by late 3rd-4th century pottery. These finds could well have originated in a cemetery and their locations may repay further study. Individual contexts also appear to be of interest, in particular context [167] which contained the iron cleaver <22> as well as loom weight fragments <26>. Greenwood has suggested that this too may have been part of a cremation burial (feature [104]).

The finds from FLQ97 also include Bronze Age material, notably the fine copper-alloy palstave <110>, which although unstratified, corroborates the lithic and ceramic evidence for Bronze Age activity.

5.3.7.4 *Assessment work outstanding*

Location and accessioning of remaining fired clay objects from the bulk daub boxes.

5.3.7.4.1 LIST OF OBJECTS FOR INVESTIGATIVE CONSERVATION

IG-HR93/6

<1> [3] iron ?spear

<22>[167] iron knife

FLQ97

<110> [800] (U/S) copper alloy palstave

X-ray – up to 8 iron objects.

5.3.7.4.2 LIST OF OBJECTS FOR ILLUSTRATION

IG-HR93/6

<1> [3] iron ?spear

<22>[167] iron knife

<201> [150] stone (jet) bracelet

At least one clay weight, <204>, <26>, <202> or <203>

FLQ97

<110> U/S copper alloy palstave

Loom weights?

5.3.8 Soil samples

Jon Giorgi

FLQ97 Bulk soil samples	flots from 57 samples
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Table 9 Bulk soil samples: summary

	No. boxes	No. items
FLQ97 Charred plant remains	1	57 dry flots

Table 10 Flotation sample residues: contents

5.3.8.1 Introduction/methodology

During excavations at the site, 60 environmental bulk soil samples were taken for the recovery of biological remains including plant material from a range of features dating from the middle Bronze Age to the late Roman period.

The samples were processed by Essex C C Field Archaeology Unit, with the flots from 57 of these samples being presented for assessment. At present the author has no processing information i.e. individual sample size, the mode of processing any biological or artefactual remains from the sample residues. Therefore, the following report is based only on the assessment of biological remains in the flots. The aim of the assessment was to establish the level of preservation, the item frequency and species diversity of any plant material and the potential for information on human activities in the area and possibly the nature of the local environment.

The assessed flots were from samples taken from the fills of various features, but particularly cremations. These represented over 61% of the assessed flots with 35 samples from 33 cremations from the Middle Bronze Age (six samples), late Bronze Age/early Iron Age (eight samples) and Roman period (13 samples); eight of the flots are from undated cremation sample fills. Eight samples were from hearths dating to

the Late Bronze Age/Early Iron Age (three samples) and Roman period (one sample), while four hearth samples were undated. Four samples were from three ditch fills, three of which were from the late Roman period while the other ditch fill sample remains undated. There were three samples from two pits, one of which was dated to the Late Bronze Age/Early Iron Age while the other two samples remain undated with three samples from two structures, one of Late Bronze Age/Early Iron Age date and one of mid-Roman date. Four flots were assessed from two posthole fills (one Roman, one undated) and a Middle Bronze Age ring ditch fill [1104, segment 878].

The flots were scanned using a binocular microscope and the item frequency and species diversity of all biological remains recorded using the following rating system of 1 to 3.

Frequency: 1 = 1-10 items; 2 = 11-50 items; 3 = 50+ items

Diversity: 1 = 1-4 species; 2 = 5-7 species; 3 = 7+ species

5.3.8.2 Charred plant remains

Charred plant remains were present in all the flots although this consisted mainly of very fragmented and variable quantities of charcoal. There were particularly large amounts of charcoal in the late Bronze Age/early Iron Age pit fill [848], the fill [497] of a Roman structure, a late Roman ditch fill [245] and three undated samples from a ditch fill [368], hearth fill [896] and cremation fill [1180]. There were potentially identifiable fragments in [848], [1180] and an undated post-hole fill [304].

There were cereal grains in 11 flots although mainly in low quantities. Only one sample (105) from the fill [496] of a Roman structure [1032] produced a large quantity of grain (over 50 items) while two samples from the fill [245] of a late Roman ditch [1000] and Roman post-hole fill [177] produced moderate amounts of grain. Occasional grains were present in the other eight flots. The majority of the identifiable cereal grains belonged to wheat (*Triticum* spp.) including glume wheats, emmer/spelt (*T. dicoccum/spelta*) plus barley (*Hordeum sativum*) and possibly oat (cf. *Avena* spp.) grains. The condition of the grain was variable.

Cereal chaff was also present in five samples with a particularly large amount in the fill [496] of Roman structure [1032] and a moderate amount in sampled Roman post-hole fill [177]. There were a few glume bases in a further three sampled features. The chaff consisted mainly of wheat glumes including spelt wheat glumes, spikelet forks and rachis fragments plus occasional oat awn fragments.

Charred weed seeds were present in seven samples although there was only a large amount (with a moderate species diversity) in the fill [368] of a Roman ditch [1014] and just occasional weed seeds in the other six samples. The weed seeds included plants from a range of habitats including plants of disturbed (cultivated) ground and waste places, eg. bromes (*Bromus* spp.), scentless mayweed (*Tripleurospermum maritimum*), leguminous seeds, eg. *Vicia/Lathyrus/Pisum* spp., plantain (*Plantago major*) and buttercups (*Ranunculus* spp.).

5.3.8.3 Waterlogged plant remains

Waterlogged seeds and fruits were present in 46 samples but generally only in low to moderate quantities and with a low species diversity. These remains may be intrusive because all these samples also contained roots (present in 53 flots) with large amounts in 29 flots.

All the recognisable seeds were from wild plants from both disturbed (including cultivated) ground and waste places, eg. oraches/goosefoots etc (*Atriplex/Chenopodium* spp.), black bindweed (*Fallopia convolvulus*), knotgrass (*Polygonum aviculare*), stitchwort (*Stellaria media* gp), bedstraw (*Galium* spp.), stinging nettle (*Urtica dioica*), and wetland habitats, especially duckweed (*Lemna* spp.) plus crowfoots (*Ranunculus Batrachium*). A grape (*Vitis vinifera*) was present in one sample from undated ditch fill [368]. Details by context are shown in Table 4.

5.3.8.4 *Invertebrate remains*

There were occasional beetle fragments in two flots from a ?Roman cremation fill [126] and a middle Bronze Age ditch fill [879]. This material, however, is probably intrusive.

5.3.8.5 *Summary: Late Bronze Age/Early Iron Age*

The flots from this period produced only a few identifiable charred plant remains, with just occasional grains and weed seeds in four samples. In addition, there were identifiable charcoal fragments in pit fill [848].

5.3.8.6 *Summary: Roman*

Most of the charred plant remains (other than charcoal) from the site were from the Roman period with large amounts of grain and chaff in the fill [496] of Structure [1032], which has been interpreted as a late Roman crop-processing building. Moderate amounts of grain were derived from ditch fill [245] and post-hole fill [177] (which also contained a moderate amount of chaff). The richest charred weed seed assemblage was from a Roman ditch fill [368]. There were also occasional grains, chaff and weed seeds in a further four Roman samples. Roman cremation fills [892] and [910] produced occasional charred cereal grains and weed seeds.

5.3.9 *Animal bone*

Alan Pipe

sitecode	weight (kg)	fragments	boxes
IG-HR93	0.051	28	1 archive quality 'shoebox'

Table 11 *nd-collected animal bone archive: contents*

5.3.9.1 *Introduction/methodology*

This report quantifies, summarises and interprets the animal bones recovered by hand-collection from the 1993 area (IG-HR93). It then assesses the potential for further post-assessment work and estimates the time and resources required to carry out such work. Each context group was described directly onto the MoLAS/MoLSS animal bone assessment database in terms of weight (kg), estimated fragment count, preservation, fragment size, species-composition, carcass-part representation and modification; and the recovery of epiphyses, mandibular tooth rows, measurable bones, complete longbones, and sub-adult age-groups. All identifications of species and skeletal element were made using the MoLSS Environmental Archaeology Section animal bone reference collection. When accurate identification to species or

genus level was impossible, fragments were assigned to the approximate categories 'ox-sized' mammal or 'sheep-sized' mammal as appropriate. It should be noted that unidentifiable 'longbone fragments', whether of 'ox-sized' or 'sheep-sized' mammal, were recorded only in terms of their contribution to the overall bone weight and fragment count for each site and context group; they are not recorded in the detailed summary tables which deal with carcass-part representation, modification and recovery of sub-adult age-groups. In view of the generally very poorly preserved and highly fragmented nature of the hand-collected assemblage, the prevalence of unidentifiable, 'ox-sized' and 'sheep-sized' mammal longbone fragments, and the lack of recovery of fish, amphibians or small mammals, no attempt was made to assess the wet-sieved bone.

A total of 41kg, approximately 10,250 fragments in 31 archive quality 'shoeboxes', of animal bone were assessed, almost entirely from hand-collected context groups (Table 10). Throughout the assessed assemblage, the bone material showed considerable uniformity in terms of preservation, fragmentation, species-composition, carcass-part recovery and age at death. The assemblage as a whole was largely in a 'poor' state of preservation with sufficient surface damage to prevent identification of taxon or skeletal element; for this reason no attempt was made to assess the highly eroded and fragmentary animal bone recovered by wet-sieving. For the identifiable fragments, the fragment size was most commonly in the range 25-75mm in greatest length. The assessed bone assemblage was dominated by ox *Bos taurus* and sheep/goat, including small numbers of definitely identified sheep *Ovis aries* with smaller components of pig *Sus scrofa* and horse *Equus caballus* and occasional recovery of chicken *Gallus gallus*, mallard/domestic duck *Anas platyrhynchos*, and red deer *Cervus elaphus*. Non-consumed mammals were represented by occasional recovery of horse *Equus caballus*, dog *Canis familiaris* and cat *Felis catus*. There was no recovery of fish, amphibians, reptiles, small mammals or wild 'game' species. In terms of carcass-part representation of ox, sheep/goat and pig, the assessed material included bones from all skeletal areas although the bulk of the material derived from areas of moderate and good meat-bearing quality; the lower limb, vertebrae, ribs and upper limb. The major domesticates derived virtually entirely from adults with negligible recovery of juvenile animals and no recovery of infants or foetal/neonate individuals. Although the poor surface condition of much of the material effectively reduced the recovery of evidence for modification; there was limited recovery of evidence for butchery, burning and pathological change. There was no recovery of evidence for bone, antler or horn-working. The complete assessed assemblage produced a limited group suitable for study of age-at-death, with 48 mandibular tooth rows and 161 epiphyses. Metrical evidence was sparser, with only 22 measurable bones including seven complete longbones.

This site produced only 0.05kg, approximately 28 fragments, of well-preserved bone mainly in the 25-75mm size range. This material derived from ox head and sheep/goat lower limb. There was no recovery of evidence suitable for study of age-at-death or stature. Evidence for modification was confined to burning on sheep/goat lower limb.

5.3.10 Cremated human and animal bone

Natasha Powers

5.3.10.1 IG-HR93

Six contexts were examined, four of which were found to contain cremation vessels or vessel fragments and fine gravel only. The remaining two contexts [127] and [129] contained 607g and 482g of bone respectively. Both deposits contained a number of large and identifiable fragments, and those in [127] could be determined to be adult. The remains were a mixture of creamy white and blue-grey in colour.

5.3.10.2 IG-HR96

Although several late Roman cremations were excavated in area 1a and the haul road, none of the cremated bone could be found.

5.3.10.3 FLQ97

Twenty-five samples of cremated bone were examined and the large proportion of these contained only small amount of highly fragmentary bone. Burnt animal bone was also present in six samples and a further ten were so highly fragmentary as to make identification of all the bone impossible. The majority of the assemblage was white in colour with varying percentages of blue-grey colouration.

5.3.10.4 Middle Bronze Age

FLQ97

The primary fill of the Middle Bronze Age ring ditch 1104 (context [879]) contained a large quantity of pyre debris, weighing 527.6g in total, including some fragments up to 50mm in size, and also contained pieces of burnt stone and possible daub. The pyre debris has moderate potential for further work. Resulting data should be combined with that from the overlying fill [880]. Context [878] is being recommended for radiocarbon dating and a secure date will greatly enhance the osteological information obtained.

It is anticipated that assessment of the environmental remains (charcoal etc) from the remainder of the site will provide a greater amount of information than the meagre amount of human bone is able to. Observations of the colour of the cremated bone made during assessment should provide sufficient data for some comments on pyre temperature to be made.

5.3.10.5 Late Bronze Age/Early Iron Age

FLQ97

Six of the examined deposits (10 contexts) fell within this date range. Again, most were highly fragmented. There is no potential for full analysis of this material. As before, assessment of the environmental remains and assessment observations of the colour of the cremated bone should provide some information on pyre technology. Re-examination to this end is recommended.

5.3.10.6 Roman

IG-HR93

Contexts [127] and [129] contain quantities of larger fragments of cremated bone and have good to moderate potential for further work. Both date from 1st-early 2nd century. It is recommended that full analysis of these contexts be carried out, to enable comparison with other sites. Burial [130] (containing [129]) was mentioned by

the excavators as being the richest burial on the site and included a number of iron nails. This should be considered during analysis, to ensure a full picture of the burial is given.

FLQ97

The Roman material from this site is also highly fragmented and three contexts (130, 155 and 177) appear to contain largely or solely animal bone fragments, the first two from a roundhouse gully and the last from a post-hole. No further analysis of these deposits is recommended.

5.3.11 Conservation

Liz Goodman

IGHR93 FLQ97	Material	No. accessioned	No. conserved	No. to be treated (see below)
Metals	Copper alloy	4 (2 coins)	1 (1 coins)	1
	Iron	16		10
Inorganics	Ceramics	13		1
	Glass	6		
	Other	1		
	Stone	6		1

Table 12 Conservation work summary

5.3.11.1 Introduction/methodology

The following assessment of conservation needs for the accessioned and bulk finds encompasses the requirements for finds analysis, illustration, analytical conservation and long term curation. Work outlined in this document is needed to produce a stable archive in accordance with MAP2 (English Heritage 1992) and the Museum of London's Standards for archive preparation (Museum of London 1999). Conservation support at the time of the IG-HR93/96 excavation was provided by conservators working for English Heritage. Records of conservation carried out at the fieldwork stage are held in the conservation department of English Heritage. One object from the FLQ97 excavation area, the Bronze Age palstave, was conserved at Colchester Museum. The record of the treatment of this object has been forwarded to Museum of London.

Treatments are carried out under the guiding principles of minimum intervention and reversibility. Whenever possible preventative rather than interventive conservation strategies are implemented. Procedures aim to obtain and retain the maximum archaeological potential of each object: conservators will therefore work closely with finds specialist and archaeologists.

5.3.11.2 Finds analysis/investigation

The accessioned finds were assessed by visual examination of both the objects and the X-radiographs, closer examination where necessary was carried out using a binocular microscope at high magnification. The accessioned finds were reviewed with reference to the finds assessments by Angela Wardle (5.3.7). Two iron items have

been identified as requiring investigative conservation and a further eight items for X-radiography.

5.3.11.3 Work required for illustration/photography

Three items were identified as requiring conservation input to prepare them for photography.

5.3.11.4 Preparation for deposition in the archive

The metal and inorganic objects, which make up the accessioned items from IG-HR93/96, appear to be stable. The small finds from this site were packed to the Passmore Edwards standards of the late 1980s, these are now considered to be inadequate for deposition in the LAARC. There is one possibly active object from FLQ97; the small finds from this site were packed to current Essex unit standards. It would be advisable to re-pack both archives, including the bulk finds, according to current best practice. It is suggested that the Museum of London Standard's for archive preparation (Museum of London 1999) are used.

5.3.11.5 Remedial work outstanding

There is no remedial work outstanding.

5.3.12 Radiocarbon dating

Alex Bayliss and John Meadows

5.3.12.1 Introduction

This assessment is based on interim reports supplied by Alex Bayliss and John Meadows, and a meeting with them on 4 March 2004 to review results and to agree on future recommendations. Full details are contained in English Heritage's radiocarbon dating archives, and only a summary of results and a recommendation for future work is included here.

5.3.12.2 Radiocarbon dating results

Four sets of two samples each from the 1997 area (FLQ 97) were submitted to English Heritage for radiocarbon dating as part of a separate programme of experimental work, although the results would be fed back into this project. The samples were taken from four cremations in the general area of Middle Bronze Age ring-ditch 1104 in the east of the 1997 area, which were otherwise undated and of uncertain relationship to securely dated features in the same area. The aim was to establish whether the cremations were contemporary with the ring-ditch, and therefore part of the same cemetery, or whether they represent more scattered funerary activity over a longer period. The dates obtained are set out in Table 13.

laboratory code	sample	material	$\delta^{13}\text{C}$ (‰)	radiocarbon age BP	calibrated date range (95% confidence)
GrA-24572	FLQ97 121 (844)A	charcoal, <i>Quercus</i> sp. sapwood	-22.9	1005±45	cal AD 900-1160
OxA-13005	FLQ97 121 (844)B	charcoal, <i>Fraxinus excelsior</i>	-24.6	918±30	cal AD 1020-1220
GrA-24574	FLQ97 134 (908)A	charcoal, <i>Fraxinus</i>	-22.7	1850±40	cal AD 70-320

		<i>excelsior</i>			
OxA-13004	FLQ97 134 (908)B	charcoal, <i>Fraxinus excelsior</i>	-22.2	1858±29	cal AD 70-240
To come	FLQ97 129 (888)A	charcoal, <i>Quercus</i> sp. sapwood			
GrA-24573	FLQ97 129 (888)B	charcoal, <i>Quercus</i> sp. sapwood	-23.2	1875±40	cal AD 30-240
GrA-24570	FLQ97 114 (822)B	charcoal, <i>Corylus</i> sp.	-26.5	3300±45	1690-1450 cal BC
OxA-12977	FLQ97 114 (822)A	charcoal, <i>Fraxinus excelsior</i>	-26.5	3315±45	1740-1490 cal BC

Table 13 Radiocarbon dating: summary

5.3.12.3 Radiocarbon dating assessment

The radiocarbon dating results show that one of the four cremations (822, pit 821) was Middle Bronze Age, and therefore contemporary with ring-ditch 1104, but that two others (888, pit 887 and 908, pit 907) were Roman. These are part of a cluster of cremations, which is now identified as a small Roman cremation group. The fourth feature (844, pit 843) is dated to the early medieval period. Re-examination of the field record shows that although it contained large amounts of charcoal no cremated bone was present. It is probably a small sunken hearth.

The only other deposit considered suitable for radiocarbon dating is FLQ 97 context 879, the primary fill of Middle Bronze Age ring-ditch 1104 (segment 878). This fill contains large quantities of pyre debris, including both cremated bone and charcoal fragments, and is well sealed. Radiocarbon dating would date more precisely an important context for understanding Middle Bronze Age funerary practice, and also would provide a reference point for the dating of Deverel Rimbury pottery, which is also present in the context. It is recommended that two samples are dated from the charcoal remains, and two samples from cremated bone remains if any sufficiently large pieces survive.

6 Potential of the data

6.1 Realisation of the original research aims

The original research aims were met in that the crop mark features identified from aerial photography were archaeologically investigated and recorded. Other archaeological features revealed in the stripping of the quarry area were also investigated and recorded to complete our knowledge of this threatened archaeological landscape. These features and their associated finds and environmental assemblages are now assessed against the aims set out in the post-excavation assessment research design.

6.1.1 Stratigraphic sequence

The stratigraphic record has potential for further analysis and publication on two levels:

1. Reconstructing a sequence of landscape development to understand broad patterns of change or continuity from period to period (Aims 6-9, 11).
2. More detailed analysis of focal points within the landscape which can help understand the character of the activity taking place (Aims 5-9).

It will be possible to reconstruct a very broad sequence of prehistoric development from the Middle Bronze Age through to the Late Bronze Age/Early Iron Age on the basis of a few well-dated key features. A more detailed Middle/Late Iron Age and Roman sequence can be reconstructed, as stratigraphic and dating evidence can be combined more closely. Post-Roman evidence is almost entirely absent.

Because of the uneven survival and quality of stratigraphic features across site, the potential for detailed analysis will be limited to the key focal areas, such as ring-ditches, cremation groups, enclosures, and structures/settlement areas. Only here is there potential for integrating stratigraphic and finds/environmental evidence closely enough to gain significant results.

6.1.2 Prehistoric pottery

Aim 3: In co-operation with other agencies to achieve an understanding of the relationship between the pottery fabrics and forms from the Neolithic through to the Iron Age-Roman transition. The absence of a clear chronological framework for the Iron Age in Essex has been a barrier to understanding regional social and economic processes (Bryant 2000, 14). The project team will establish a regional pottery sequence supported, where possible, by absolute dates (Nixon *et al* 2002, 19–20, English Heritage 1997, 55 (L3)).

The Middle Bronze Age and Late Bronze Age/Early Iron Age pottery from the 1997 area (FLQ97) both has potential for analysis of forms to establish closer dating. In addition, radiocarbon dating of FLQ97 context [879] will provide an absolute point of reference for the dating of Deverel Rimbury forms within the Middle Bronze Age.

The Middle Iron Age forms in the 1993 area (IG-HR93 contexts [117], [224] and [228]) may be able to contribute to the fabric type series for the Middle Iron Age. The presence of pottery of Middle Iron Age and Late Iron Age/ Roman transitional date in the same contexts needs further analysis in conjunction with the Late Iron Age/Roman pottery specialist and the project officer carrying out the stratigraphic analysis.

6.1.3 Worked flint

The assemblage has little potential to contribute to the aims set out in the project design. Moreover, the small size of the assemblage precludes the need for further analysis.

6.1.4 Late Iron Age/Roman pottery

The LIA/Roman pottery assemblage was very fragmentary and mainly made of small undiagnostic groups. The quality of the dating evidence is generally not good, although there are a few groups that give reasonably close date ranges.

The Late Iron Age/early Roman pottery from the IG-HR93 round-house ditches 116/286 and 230 needs to be looked at in conjunction with the Middle Iron Age material from the same features to provide a firmer date for them if possible. This may help clarify the chronology of early shell-tempered wares in the region. Cremation groups from all three areas of the site should also be analysed, as pottery vessels were not only used to contain the cremated remains, but were also placed as

The assemblage offers little potential for further analysis beyond the production of dating evidence, although there is some potential to refine the dating of key features. There is also some limited potential for analysis of cremation groups. However, as the pottery is so fragmented and there is a complete absence of large securely dated groups, none of the material is of sufficient quality to warrant detailed quantification or analysis.

6.1.5 Post-Roman pottery

The one unstratified Saxon sherd is of little value on its own, but if further sherds are located and confirmed as Saxon the pottery will be of interest as this is most northerly site in the project and in an area where little is known of Saxon activity. The site could, then, be used to address Aims 10 and 11. The pottery may also contribute to the development of pottery studies for the area though scientific analysis. The post-medieval pottery has no further potential.

6.1.6 Querns

The small group of querns from the FLQ97 crop-processing structure [1032] is significant for its site context. Only limited analysis is justified, however, to compare them with the large contemporary assemblages at Hunts Hill, Upminster and Moor Hall Farm, Rainham. This will contribute to addressing Aim 9 in the project design.

6.1.7 Building materials

The poor quality of the daub and probable Belgic brick means the building material has only limited potential, although the Roman roofing tile does indicate some sort of rural building.

6.1.8 Accessioned finds

The small and relatively poor assemblage includes only one Bronze Age object, and mainly comprises Late Iron Age and Roman objects. These have some limited potential to define the nature of the Late Iron Age/Roman settlement.

6.1.9 Soil samples

There were few rich botanical assemblages in the samples and the potential of the charred plant remains in providing information on economic activities at the site was mainly limited to a small number of Roman samples from the 1997 area (FLQ97).

On the very basic level, the charred cereal remains from the productive Late Bronze Age/Early Iron Age samples may provide evidence on the range of cereals cultivated and used in this area although little detailed data on crop husbandry activities. The potential identification of charcoal fragments from FLQ97 pit fill [848] may however yield information on local woodland exploited as fuel. Several other charcoal fragments from FLQ97 submitted for radiocarbon dating have already been identified by Rowena Gale as: oak (*Quercus* sp.) sapwood in samples from [844] and [888], ash (*Fraxinus excelsior*) in samples from [822] and [908], and hazel (*Corylus avellana*) in a sample from [822]. This evidence would help address Aim 7 in the project design, changes taking place in the agricultural landscape in the 1st millennium BC.

On the other hand, the Roman samples from FLQ97, notably the three richest plant assemblages, may provide information beyond simply the range of cereals cultivated and used at the site. These samples include evidence on crop-processing activities, particularly as the richest assemblages were from structure [1032] interpreted as a mid/late Roman crop-processing building. It is unlikely however that these samples will provide information on crop husbandry, such as the range of soils cultivated in the area. In this respect, the dating of the sampled feature with a large weed seed assemblage (from ditch fill [368]) could provide useful information.

The potential of the wild plants preserved as waterlogged remains in allowing a reconstruction of the character of the local environment depends upon whether this material is contemporary with the deposits or intrusive; the latter is suggested by the large amount of roots in the flots. In any event, the species diversity of this material is fairly low and is unlikely to provide any detailed information on the nature of the local environment.

6.1.10 Animal bone

There is limited potential for study of the use and disposal of the major domesticates ox, sheep, and pig in terms of carcase-part selection and age-at-death, and to a much lesser extent, butchery technique and stature. The sparsity of the assemblages of poultry and non-consumed domestic mammals, and virtual absence of wild 'game' effectively prevents post-assessment interpretation of these groups. The lack of evidence for horn, bone and antler working also prevents comment on tools and

techniques at any level. The absence of amphibians, wild birds and small mammals prevents comment on the local environment.

6.1.11 Cremated human and animal bone

6.1.11.1 General

The overall potential of the assemblage is somewhat limited due to sample size and fragmentation. However, many of the cremation samples may provide information on pyre temperature. The contrast in fragmentation and temperature of burning between sites and time periods could be further examined to examine any significant differences present and provide a clearer view of changes in burial ritual through the Roman transition period (Aim 5). Comparison with the wealth of data from other areas of the country may identify regional differences, though again this will be limited by the small size of the assemblage.

Further study of the apparent inclusion of animal remains and objects on the cremation pyre should also address this research aim (Aim 5). The majority of the samples contained exclusively human remains, though some animal bone is also present, both on its own and mixed with cremated human bone.

Analysis of these remains will identify areas that require further research in order to provide adequate information on prehistoric and Roman cremation practices in East London and answer the broad research themes originally identified.

6.1.11.2 Summary of cremated bone potential

The deposits with moderate or good potential should be fully analysed. These include the Middle Bronze Age pyre debris (879) from FLQ97 ring-ditch 1104, and early Roman cremations 127 and 129 from IG-HR93. Other contexts with poor potential for analysis of cremated bone should be re-examined to refine the observations on colour and pyre temperature.

6.1.12 Radiocarbon dating

The radiocarbon dating carried out so far has helped define the activity in the area of FLQ97 ring-ditch 1104. The results show that most of the features thought to be cremations related to the ring-ditch are not related to it at all. No further work is required.

Radiocarbon dating of FLQ97 context 879, pyre debris in the primary fill of ring-ditch 1104, would make an important contribution to understanding the Middle Bronze Age activity on site. It would provide an absolute date both for this example of Middle Bronze Age funerary practice, and for dating the Deverel-Rimbury pottery forms that are also present in the context.

6.2 General discussion of potential

Aims referenced in this section refer to the aims set out in the assessment project design.

6.2.1 Middle Bronze Age

The two Middle Bronze Age ring ditches and related funerary evidence in the north of the site (FLQ97) have the potential to shed light on Middle Bronze Age burial and ceremonial practices (Aim 5). Analysis of cremated bone will help detailed interpretation of funerary practice, while comparison with parallels from other sites will place the ring-ditches within a wider context. There is potential for analysis of Deverel-Rimbury type pottery forms, to refine typology and dating (Aim 3), and radiocarbon dating will establish an absolute date to provide a reference point for the typology.

6.2.2 Late Bronze Age/Early Iron Age

Evidence of settlement in the centre of the site (FLQ97) in the Late Bronze Age/Early Iron Age suggests a transition from the open ceremonial landscape seen in the Middle Bronze Age to a settled agrarian landscape (Aim 6). Late Bronze Age/Early Iron Age features include a sunken-floored post-hole structure, hearths, rubbish pits and cremation burials. This evidence is not particularly well preserved, but has some potential for understanding the character of settlement activity (Aim 7). There is potential for analysis of Late Bronze Age/Early Iron Age pottery forms to refine typology and dating, and for analysis of other finds, especially loom-weights, which are important as they indicate domestic occupation. There is also some limited potential for analysis of charred cereals and wood remains to help understand the character of agriculture and exploitation of woodland at this time.

6.2.3 Middle/Late Iron Age and early Roman

Evidence of Middle Iron Age settlement is confined to the south-west of the site (IG-HR93). This might suggest a shift in activity focus away from the north of the site in the mid-1st millennium BC and may aid our understanding of the transition from ceremonial to agrarian enclosed landscape (Aim 6). The Middle Iron Age settlement evidence consists of roundhouses, gullies and rubbish pits, and provides the first area of well-defined settlement within the site area, and has potential for further analysis of settlement activity in the 1st millennium BC (Aim 7). The relationship between the roundhouses and the Late Iron Age enclosure ditches that surround them is ambiguous and needs further analysis, especially the pottery dating, as Middle Iron Age and Late Iron Age/early Roman transitional pottery are found in the same contexts. Further analysis of the pottery and its stratification will help to confirm the dating of this activity, and the transition to an enclosed settlement in the Late Iron Age/early Roman period (Aim 8). Refining pottery typology and dating for the Middle and Late Iron Age is also critical to pottery studies for the region (Aim 3).

The rectangular enclosure in the north of the site (IG-HR96) dating to the Late Iron Age/early Roman period represents evidence for this transition period, although the potential for further analysis is limited as it was only trial-trenched and the interior was investigated only minimally. The truncated roundhouses to the south of this enclosure (FLQ97) also date to the Late Iron Age/early Roman period. Although this evidence is not well preserved, it contributes towards interpreting the overall development of the landscape in the Late Iron Age/early Roman period (Aim 8).

In the early Roman period, cremation burials were placed in the gullies of the roundhouses in the north of the site, and in the top of the enclosure ditch surrounding

the roundhouses in the south-west of the site. There is some potential in looking at this phenomenon of Roman burials being placed in areas formerly used for habitation.

6.2.4 Later Roman

The majority of the field system and enclosures date to the later Roman period, from the 2nd century onwards. These aid our understanding of the site, which had become an enclosed agrarian landscape by this time, suggesting intensification of agricultural exploitation (Aim 9). Although further study of the field systems will be hampered by the limited sampling of boundary ditches which took place it may be possible to assign functions to some of the ditches and to ascertain at what stage some of the different ditches were created. There is evidence of at least two later Roman agricultural buildings, and analysis of the layout of the field system, its enclosures and related structures, may help understand the development and use of the Roman landscape (Aim 9).

There is also potential for understanding the nature of the agriculture in the Roman period through analysis of charred cereal and other plant remains. Two groups of samples have good potential: fill 368 of a field boundary ditch; and the fills of the late 2nd-early 3rd century sunken-floored structure 1032, which is thought to have been used for crop processing. The analysis will establish the type of crops grown and the fertility of the soils in which they were grown. Analysis of pottery and other finds has some potential for understanding the relative status and wealth of this agricultural community compared to Roman London and other sites in its hinterland (Aim 9).

7 Significance of the data

7.1 Overview

Despite its limitations, the site evidence is significant on both a local and regional level. Locally, it is possible to reconstruct a continuous sequence of landscape development from the Middle Bronze Age through to the late Roman period, and to date and understand the broad character of site activity in all periods. The prehistoric evidence is patchy, although some aspects are highly significant, while evidence for the Middle/Late Iron Age and Roman periods is more extensive. The almost complete absence of post-Roman evidence is explained by the fact that the site was part of Hainault Forest until the 19th century.

Regionally, the site evidence is able to contribute to most of the original assessment research aims, and therefore contribute to almost all of the main research themes. The site should be included in any comparative analysis and discussion of sites within the study area. However, because of the patchy quality of the evidence the site will be central to this discussion only in a few key areas.

The aspects of the site evidence that have regional significance are:

- Middle Bronze Age funerary monuments
- Transition from a burial and ceremonial landscape to an agrarian landscape
- Prehistoric pottery assemblage, for developing a regional typology
- Middle/Late Iron Age to early Roman settlement evidence
- Transition from Late Iron Age to Roman
- Roman agricultural development and practice

7.2 Prehistoric pottery

The prehistoric pottery is of regional significance as datable forms from the Middle Bronze Age, Late Bronze Age/Early Iron Age and Middle Iron Age will contribute to building a prehistoric pottery typology for the region.

7.3 Worked flint

The worked flint is of local significance only, as it indicates some activity at the site occurring in the Later Mesolithic to Early Neolithic and Early Bronze Age periods.

7.4 Late Iron Age/Roman pottery

The significance of the Late Iron Age/Roman pottery is mainly local, although there is some evidence that contributes to regional research questions. The pottery provides useful dating evidence for reconstructing the site's development from the Late Iron Age/early Roman transition to the late Roman period. A few groups where pottery is found in reasonable quantity confirm the overall dating, but there are no large groups for detailed quantification for comparison with other assemblages. The pottery has some limited significance, however, for helping to date the Middle/Late Iron Age to early Roman transition, and very generally for analysis of economy and trade.

7.5 Post-Roman pottery

The post-medieval pottery is of no significance, even in the local context. The significance of the Saxon pottery is hard to define when not all has been seen, but this is most northerly site in the project and in an area where little is known of Saxon activity. Any Saxon pottery would, therefore, be of local importance and could contribute to regional research.

7.6 Building material

The Roman building material is of local significance only. The post-medieval material is of no significance at all.

7.7 Querns

The querns from the Roman crop-processing building have local significance for interpreting the structure, and regional significance for wider discussion of evidence for Roman agricultural practice.

7.8 Accessioned finds

Although this assemblage is restricted both in size and range, it is of significance in the regional context, as Greenwood suggests (1998, 73), in balancing the larger assemblages from the richer sites in the area.

7.9 Botanical remains

The plant remains from the 1997 area (FLQ97) are of local significance in providing very basic data on the range of cereals used in the Late Bronze Age/Early Iron Age and the Roman period, while several samples from the Roman period may provide information on crop-processing activities. This data needs to be considered in conjunction with charred plant remains from the 1993 and 1996 areas (IGHR93 and IGHR96), if a record of this material can be located. The dating of the sampled ditch fill containing the large charred weed assemblage may provide information on crop-husbandry practices.

The charred plant remains in the Roman samples from FLQ97 could be considered to be of regional significance if only because of the general paucity of such remains from this area of the lower Thames Valley. It will also be interesting to

compare these results with cereal remains from late Roman deposits in Roman London and other recently assessed sites in the Lower Thames Valley.

7.10 Animal bone

The animal bone assemblage will provide some insight into patterns of local exploitation and subsequent disposal of the major domesticates, particularly horse, ox, sheep/goat, pig and dog. The assemblage has limited potential for comparison with contemporary sites throughout the London area particularly in terms of carcass-part selection and age-at-slaughter.

7.11 Cremated bone

The human bone has local significance only.

7.12 Radiocarbon dating

The radiocarbon dating carried out so far has only local significance in that it resolved some detailed dating and phasing problems in the area of the Middle Bronze Age ring-ditch FLQ97 1104, and no further work is proposed. Radiocarbon dating of pyre debris in the primary fill of the ring ditch has regional significance, however, both for dating this example of funerary practice, and for providing an absolute date for Deverel Rimbury pottery forms, thereby contributing to building up a well-dated prehistoric pottery typology for the region.