

Moor Hall Farm, Lauanders Lane, Rainham

A post-excavation assessment

Site Code R-MHF77

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Notes to Figures:

Figure 1: Only features dated at assessment are shown, but the position of the Late Iron Age enclosure is shown on outline.

Figure 2: Roundhouse [10012] dates to the Late Bronze Age/Early Iron Age (800 – 500 BC), while the other features shown date to either 800 – 300 BC or 600 – 300 BC. Only features dated at assessment are shown, but the position of the Late Iron Age enclosure is shown on outline.

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1 Introduction

1.1 Site location

The approximate centre of the site at Moor Hall Farm, Rainham lies at NGR 55450 18200. It is situated on the north side of the Thames about 21.5 km (12 miles) east of the City of London, within the London Borough of Havering.

Fig 1 Site location: Moor Hall Farm

1.2 The scope of the project

The excavations at Moor Hall Farm, Rainham recorded activity dating from the late-neolithic to the late Roman, although occupation was not necessarily continuous and some periods within this date range are not represented at the site. The assessment of the site itself is confined to immediate vicinity. However, the site forms a part of a broader project – ‘Understanding East London Gravels’ (Project Design MoLAS 2002) – which encompasses sites stretching from Ilford to Upminster.

The Post-excavation assessment and updated project design report is defined in the relevant GLAAS guidance paper (Paper VI) as intended to ‘sum up what is already known and what further work will be required to reach the goal of a well-argued presentation of the results of recording and analysis’ (VI/1).

The principle underlying the concept of post-excavation assessment and updated project design were established by English Heritage in the Management of Archaeological Projects 2 (MAP2), (1991). More recent GLAAS guidance has emphasised the need for this stage to be seen as ‘brief and transitional’, the document acting as a ‘gateway’ to further analysis and eventual publication (EH, GLAAS, 1999 VI/1)

1.3 Circumstances and dates of fieldwork

The site was originally identified in 1975 from cropmarks, including a substantial triple-ditch enclosure, recorded by aerial photography. An evaluation of the cropmarks was undertaken in 1977 when a trial trench was excavated across the north-eastern side of the triple-ditch enclosure. About 17 ha. (41 acres) of the site was subsequently investigated in plan and section as a rescue excavation conducted by the Passmore Edwards Museum between Autumn 1979 and Spring 1981. The site, directed by Pamela Greenwood, encompassed six areas of excavation (A, B, C, D, E and F).

Archaeology was recorded on multi-context plans. Feature numbers, denoting both a cut and its fill, were widely employed but the subdivision of fills into a succession

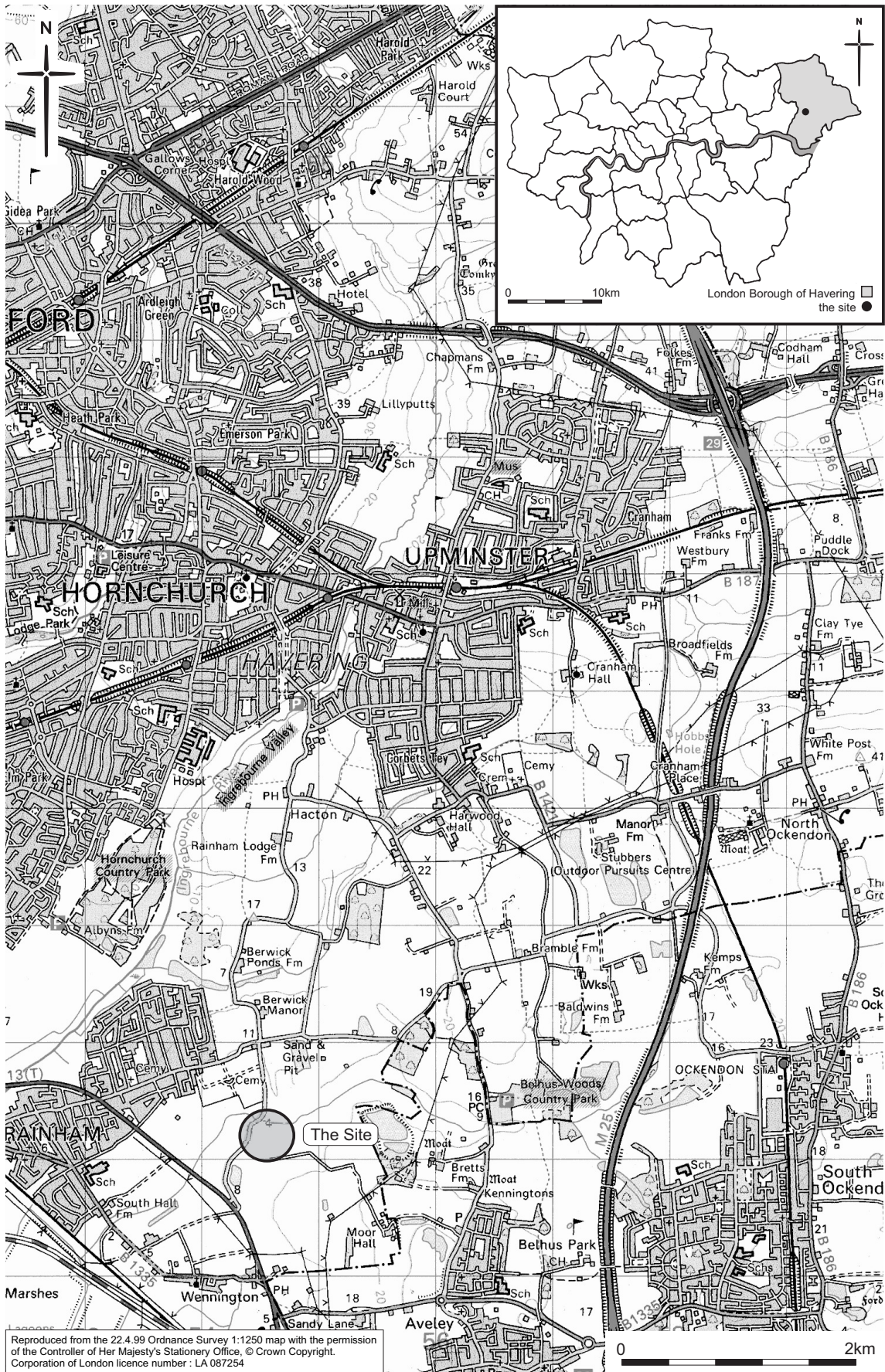


Fig 1 Site location: Moor Hall Farm

of contexts also occurred and in these instances the uppermost fill and the cut retained the same number.

1.4 Organisation of the report

This report is organised into nine main sections. Section 2 briefly presents the topographic, historical and archaeological background context for the project. Section 3 reiterates the research themes outlined in the original project design for 'Understanding the East London Gravels'. In section 4 the results of the assessment of the stratigraphic record are presented on a period by period basis. Section 5 contains the assessments of finds assemblages and their quantification. Section 6 will examine the potential of the data discussed in sections 4 and 5 to answer the research questions outlined in section 3, whilst section 7 will provide a brief synthesis of the site data outlining its significance. The Updated Project Design (Sections 8 to 10) considers the overall project aims and is bound separately.

2 Historical and archaeological background

2.1 Geology and Topography

The site is situated on a spur of the Thames Terrace Gravels bounded by the 7.6m OD contour. The site falls away to the south, towards the Thames marshes, and is also bounded to the east by low-lying ground: it lies, therefore at the southern edge of the inhabited zone in this part of the Thames valley. The gravels are sandy and clayey and overlain by subsoil and topsoil.

2.2 Archaeological background

Moor Hall Farm, Rainham, lies 400m E of a Neolithic ring ditch recorded at Great Arnold's Field in 1963, a site (R-126) which is assessed within this project. A Neolithic settlement at Brookway Allotments (Greenwood and Maloney 1993) lies about 2km to the W. Great Arnold's Field also produced evidence for the Early Bronze Age in the form of fragments from 5-6 Beakers. A complete Beaker was found in Gerpins Pit, Gerpins Lane, about 1.5 km to the NE, in 1937. However, Beaker and Early Bronze Age remains are sparse in NE London.

There is a marked increase in evidence for settlement and land-use in the study area from the middle and later Bronze Age (about 1700BC onwards). The density of settlement appears to increase through the Iron Age, although the early Iron Age remains little known.

There is ample evidence from pottery finds, the known alignments of Roman roads, cremations and interments to infer relatively dense occupation in this part of the Thames valley in the Roman period.

3 Original research aims

The site was excavated in 1982 under rescue conditions. All subsequent research is undertaken within the priorities established in the Museum of London's *A research framework for London Archaeology*, 2002. Research aims and priorities follow the outlines in *Management of Archaeological Projects 2 (MAP2)*, *English Heritage London Division Guidelines Paper 3*.

Additionally, the project design (MoLAS 2002) highlighted a series of 'potential' research themes, or original research aims. These have been paraphrased below. They refer to the East London Landscape project as a whole rather than to Moor Hall Farm, Rainham specifically.

3.1 Potential research themes

The sites in this project have the potential to illustrate the landscape development on the gravel terraces of the East London area by establishing certain fundamental details of that landscape such as aspects of its architecture and the nature of specific activities seen through their resultant archaeological residues. The project will therefore establish a considerable amount of detail of acts of inhabitation for all periods. This will allow broad discussion of cultural themes concerning the development of a settled landscape and farming practises in the estuarine Thames from the 3rd millennium BC to the 17th/18th century.

The following research aims have been crystallised from a number of broad themes which run through each of the site objectives. These questions have been formulated into a series of larger questions focusing on the most promising (in terms of potential) elements of the sites and their datasets.

3.1.1 General

Aim 1: In co-operation with other relevant agencies to establish limits to a future study area which will address an emerging research agenda for prehistoric and Romano-British activity in East London (English Heritage 1997, 56 (L4) and 60 (MTD11)).

Aim 5: To collate and present the evidence for the ritual or ceremonial activities, and to propose a framework for their development (English Heritage 1997, 44 (PC3)).

Aim 11: To recreate landscapes from historical, archaeological, ecological and topographical data, interpret partitioning, alignments and territory and chart the way successive societies used and transformed the landscape. To demonstrate the extent to which natural and man-made features influenced later land use and settlement patterns in the study area, and in the wider regional context (English Heritage 1997, 56 (L4)).

3.1.2 Ceramic and finds

Aim 2: In co-operation with other agencies to establish a means of ensuring that prehistoric ceramics and lithics recovered from the sites in the project can be assessed and referenced in a commonly agreed and accepted manner.

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)).

3.1.3 Palaeolithic and Mesolithic

Aim 4: To report on the few finds and features of Palaeolithic and Mesolithic date from the sites in this project, and to relate them to known activity in the locality.

3.1.4 Bronze Age

Aim 6: To examine the evidence for the transformation from a ceremonial landscape to an enclosed agrarian landscape with increasingly long-lived patterns of settlement during the late 2nd and 1st millennium BC (Nixon *et al* 2002, 21).

Aim 7: To explore the further changes taking place in the agricultural landscape during the 1st millennium BC and the appearance of nucleated settlements in the study area in the late 1st millennium BC and to analyse the associated activity traces (Nixon *et al* 2002, 21, English Heritage 1997, 48 (P8)).

3.1.5 Late Iron Age-Roman transition

Aim 8: To examine and interpret the evidence for the Late Iron Age-Roman transition. In particular to understand the rate, scale and causes of change (Haselgrove *et al* 2001, English Heritage 1997, 44 (PC4)).

3.1.6 Roman

Aim 9: To characterise the nature of Roman hinterland occupation, to determine its links with the pre-existing landscape and the wider world, and to explore the nature of activities, chronology and reasons for the changes in land use apparent between the early and later Roman periods (Nixon *et al* 2002, 24–5 and 36–7). To examine critically the notion that a decline in or change of land use occurred in the study area between the middle of the 2nd century AD and the end of the 3rd century AD.

3.1.7 Medieval and post-medieval

Aim 10: To characterise the post-Roman development of the East London landscape identifying foci of activity in chronological and spatial terms (English Heritage 1997, 44 (PC5), Nixon *et al* 2002, 38–9).

3.2 Summary

The potential of the project has been considered at four levels:

The potential to reconstruct the architectural settings and types of occupation and activities which occurred within the evolving landscape of what is now East London.

The potential that constructional and depositional evidence, and environmental evidence have to expand current understanding of the particular research themes, within regional (and national) prehistoric and Roman and later studies.

The potential that the selected multi-site dataset has to contribute to the regional model of changing landscapes.

The information that already exists in the form of interim reports, partially completed analysis reports and previous assessment work provides a substantial knowledge-base upon which to build. However, significant gaps remain, so a targeted selection of tasks needed to assess the potential of the archive have been formulated.

4 Site sequence: interim statement on field work

4.1 Introduction

The site was first investigated by means of a trial trench in 1977 (R-MHF77). Subsequently, between autumn 1979 and spring 1981, a series of open area excavations (R-MHF79 Areas A – F) took place. For ease of reference all data from these archaeological interventions has been coded as R-MHF77. Context numbers below 100 refer to the original intervention. The trial trench itself, however, has not been included within the stratigraphic assessment. It represented a small proportion of the total contexts from the site, which were recorded exclusively in section on the sides of the trench and was considered unlikely to modify any conclusions drawn from the 1979 – 81 excavation which included the area around the 1977 trench.

The site has not been sub-grouped and all references are at context level.

The discussion of the site sequence by chronological period is limited by the fact that only 25% (by context) of the prehistoric, Late Iron Age and Roman pottery has been assessed. Consequently the majority of features remain to be dated. As the contexts selected for assessment within each pot category are different it should also be born in mind that some early dates may prove to be residual, and some later dates intrusive. In order to fully understand the potential of the site all pottery will need to be looked at within any programme of later work.

The assessment has avoided conjecture where possible and has generally only included securely dated material within the provisional phase plans. As a result these plans are to some extent incomplete and, for this reason alone, may differ from those previously suggested by the excavators.

4.2 Natural and topography

The natural substrata comprise estuarine gravels and clayey sands which form a spur of higher ground overlooking the Thames marshes to the south. The level of the top of the spur site lies at or slightly above 7.5m OD.

4.3 Early Neolithic

Activity of this date in the vicinity of the site was possibly indicated by a pressure flaked blade ([741]) and items of debris ([622]), both of which have the potential to represent earlier Neolithic activity than that defined by the remainder of the worked flint from this site. One of these features is currently unlocated. The other ([741]) lies c 100m N of the centre of the later triple-ditched enclosure. These finds are probably outliers from activity elsewhere (possibly Great Arnold's Field) and no coherent evidence for occupation during this period can be defined at this site.

4.4 Late Neolithic – Early Bronze Age (2500 – 1700 BC)

Two small features ([310], [322]) contained pottery of this date. They lay close together, c 95m SE of the centre of later triple-ditched enclosure. It is likely that this period at Moor Hall Farm also constitutes peripheral finds which are subsidiary or a sub-set of the evidence from Great Arnold's Field.

Fig 2 Neolithic flint [741] and Late Neolithic and early Bronze Age features (2500 – 1700 BC) at Moor Hall Farm

4.5 Late Bronze Age (1000 – 700 BC) and Late bronze Age/Early Iron Age (800 – 500 BC)

A hut circle ([10012]), currently dated by pottery to the late Bronze Age, forms the earliest evidence for occupation at Moor Hall Farm. A small number of other dated features ([326], [688], [1197], [1214]) appear to be broadly contemporary. The hut lies immediately to the east of the later triple-ditched enclosure: the other features lay in a band extending NW and SE of the hut.

4.6 Early Iron Age (600 – 300 BC)

A gully (714), to the N of the triple ditched enclosure, may represent a fragment of a hut circle. Two other features ([563], [10025]) from this period have been identified to date. The location of the gully is significant in that it clearly anticipates the location of the better defined middle/late Iron Age huts on the site and marks a shift away from the settlement location defined by the late Bronze Age hut.

Fig 3 Late Bronze Age and early Iron Age features at Moor Hall Farm

4.7 Mid/Late Iron Age (300 – 50BC)

Three clearly defined hut circles ([651], [664], [700], [701], [10020]) lie 100 – 110m N of the centre of the later triple-ditched enclosure and offer the strongest evidence of a settlement in the pre-Roman occupation of the site. All are currently dated 300 – 50 BC on pottery. Further S, a directly contemporary gully ([1194]) may form a fragment of a fourth hut site truncated by the triple-ditch enclosure. Other phases, extending into the period 50 BC – AD 70, of a building on this possible hut site may be represented by fragmentary, curving gullies ([1193], [1211]).

Fig 4 Middle and Late Iron Age features at Moor Hall Farm; the cluster of roundhouses dates to 300 – 50BC

4.8 Late Iron Age/Early Roman (50 BC – 60AD)

This period of activity encompasses the triple-ditched enclosure which is the most conspicuous feature of the site. Pottery from the outer ditch ([10003]), which may have been the latest of the three to be constructed, dated to AD 10 – 120 (Greenwood

1982). The fills of a well ([821]) within the enclosure and contemporary with its use (Greenwood 1982) dated to AD 40 – 60.

Fig 5 Late Iron Age/Roman conquest period features at Moor hall Farm

4.9 Early Roman (AD 40 – 200)

The date for the disuse of the triple-ditched enclosure is not easy to establish. Some early Roman features, dated AD 40 – 100, such as [10057] and [10058] lie within the enclosure and may relate to its use. Others, particularly features which have an Early Roman early date but a late date of after AD 200 clearly belong to the imposition of a field system over the disused enclosure. The AD 40 – 400 dates from some of the fills of ditch [10004] fall into this category. However, fill [1192] from this ditch dates to AD 350 – 400. The extent of early Roman exploitation of the site remains unclear.

Fig 6 Early Roman features at Moor Hall Farm

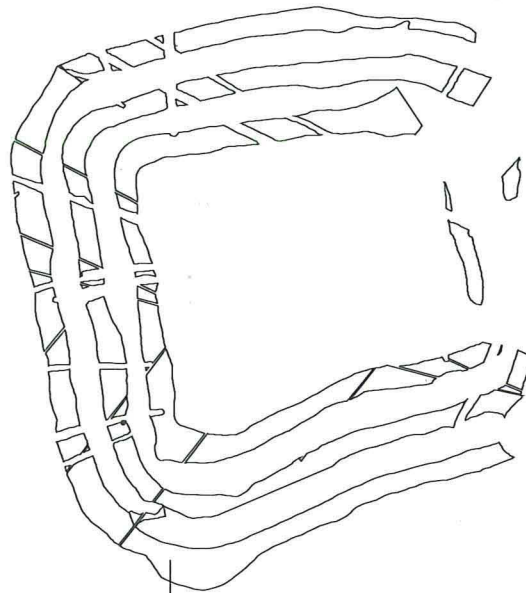
4.10 Late Roman (AD 200 – 400)

The nucleus of the late Roman occupation of the site is defined by a rectilinear building ([10026], [10031], [10037], [10045]) to the west of the triple-ditched enclosure. It is associated with a number of ring ditches and has a sequential relationship with at least one. A well (structure [265]) also forms part of this complex. The balance of the dating suggests a 4th century date, possibly after AD 350, for much of this activity.

Fig 7 Late Roman features at Moor Hall Farm






◦ 741.0 (flint)



later triple-ditch enclosure

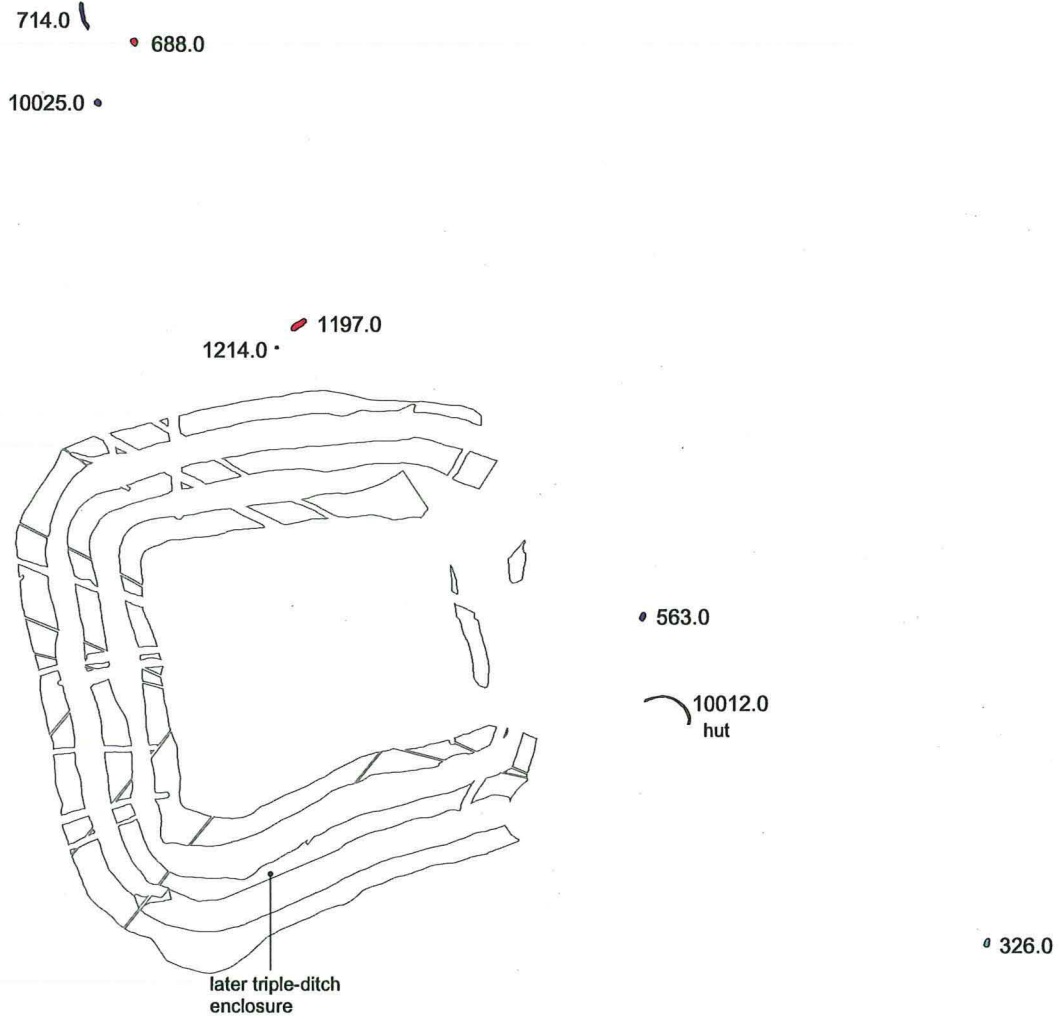
322.0 • 310.0

-  Neolithic flint
-  Late Neolithic and early Bronze Age (2500 - 1700)
-  Late Iron Age enclosure

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0  50m

Fig 2 Neolithic flint [741] and Late Neolithic and early Bronze Age features (2500 - 1700 BC) at Moor Hall Farm

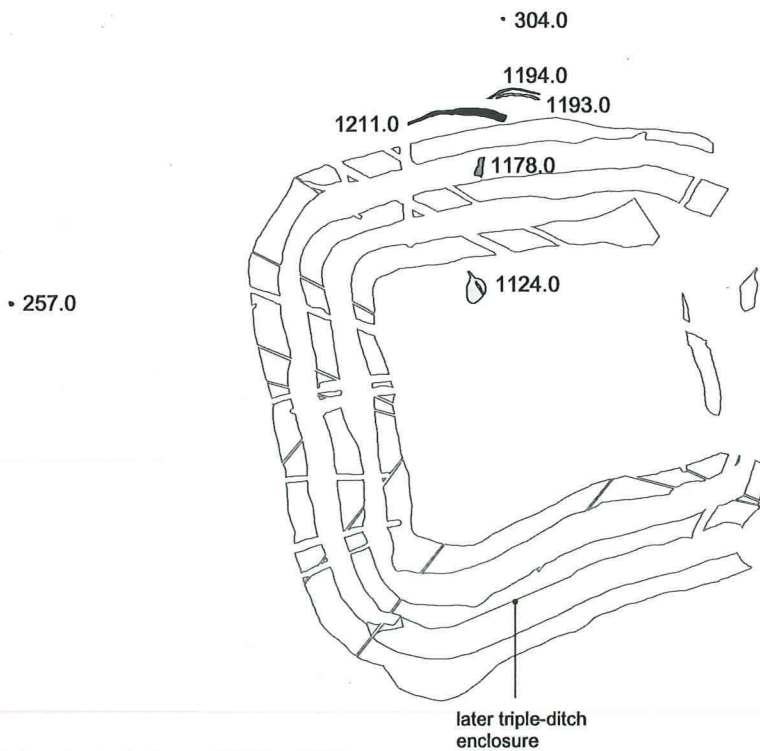
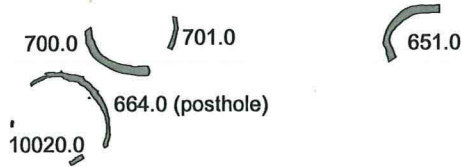


- Other late Bronze Age/Early Iron Age activity (800 - 300 BC)
- Early Iron Age (600 - 300 BC)
- Late Bronze Age/Early Iron Age hut (800 - 500 BC)
- Late Bronze Age (1000 - 700 BC)
- Late Iron Age enclosure

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0 50m

Fig 3 Late Bronze Age and early Iron Age features at Moor Hall Farm

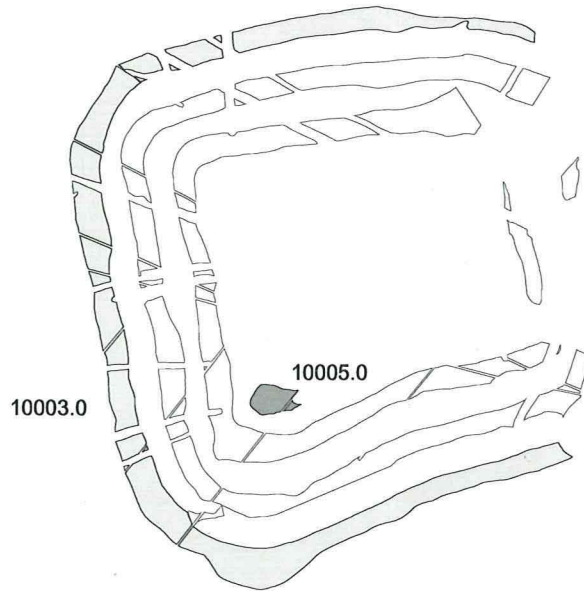





- Late Iron Age/early Roman (50 BC - AD 70)
- Mid/Late Iron Age huts (300 - 50 BC)
- Iron Age (600 - 50 BC)
- Iron Age enclosure

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Fig 4 Middle and Late Iron Age features at Moor Hall Farm; the cluster of roundhouses dates to 300 - 50 BC

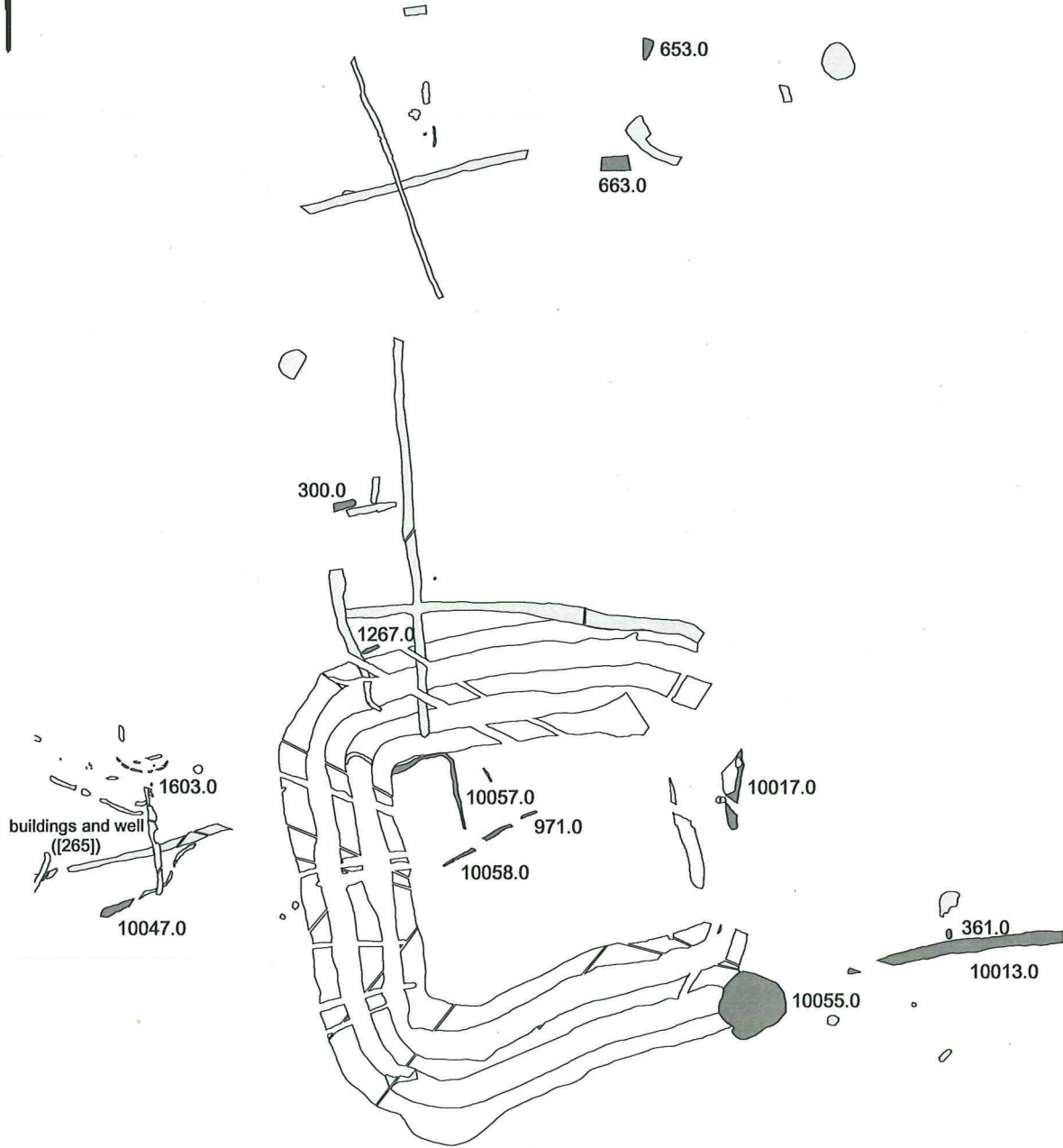


-  Waterhole [10005] (40 - 60 AD)
-  Late Iron Age ring ditch (10 - 120 AD)
-  Iron Age enclosure

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0  50m

Fig 5 Late Iron Age/Roman conquest period features at Moor Hall Farm

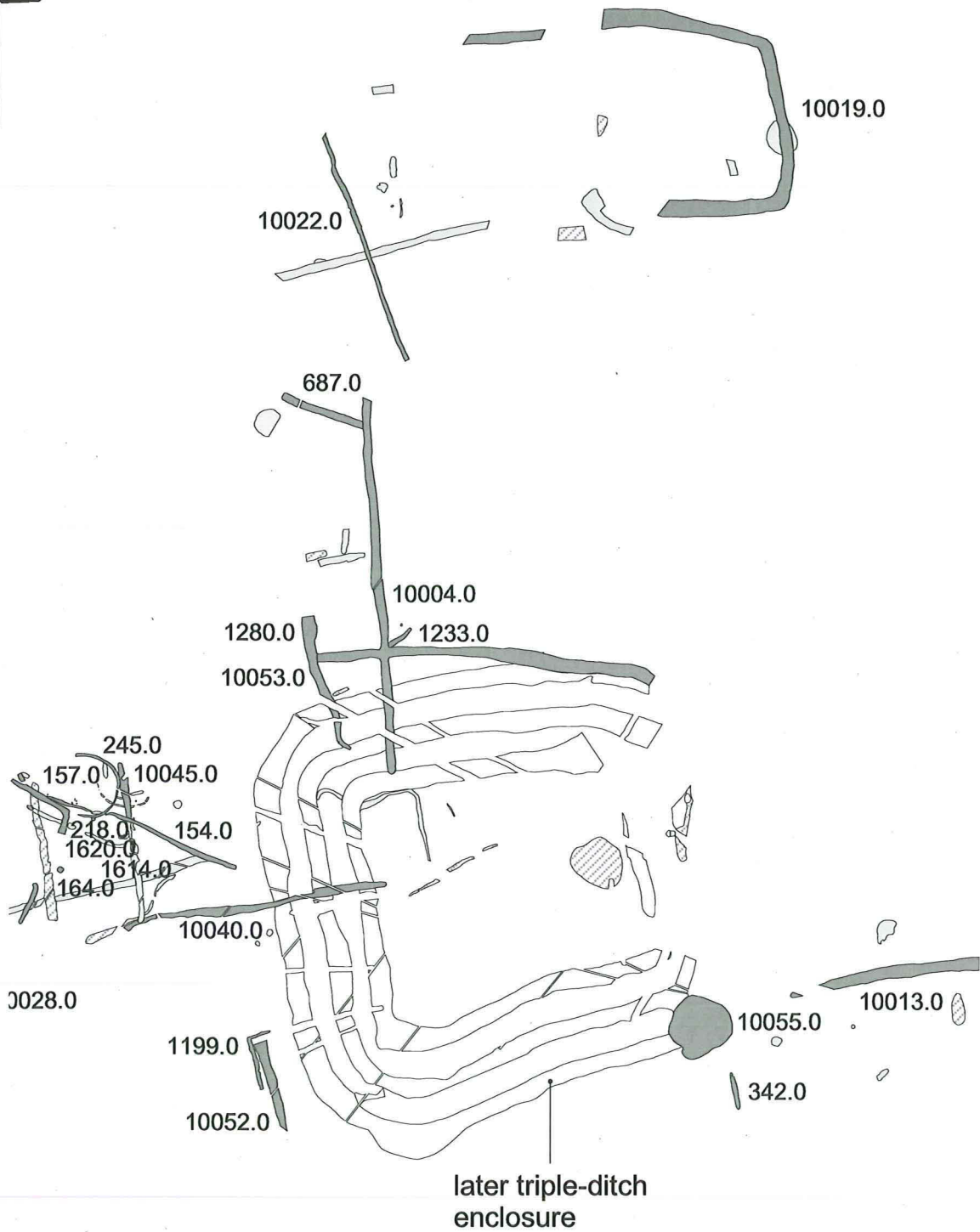


- Early Roman (AD 40 - 200)
- Possible early Roman
- Abandoned Iron Age enclosure

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Fig 6 Early Roman features at Moor Hall Farm

0 50m



- Late Roman after AD 200
- Possible late Roman
- Early Roman (AD 40 - 200)
- Abandoned Iron Age enclosure

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Fig 7 Late Roman features at Moor Hall Farm



5 Quantification and assessment

5.1 Post-excavation review

5.1.1 *Completed tasks*

This section lists the tasks completed so far prior to authorship of the post excavation assessment.

Context sheets checked

Context information entered into ORACLE database

Site context matrix compiled

Context matrices established on BONN Harris matrix software

All contexts, except those currently unlocated (Areas C and E), are digitised as single contexts in AutoCAD, data extracted from multi-context plans at variously 1:20 and 1:100

Arcview GIS project generated of digitised contexts

Linkage of ORACLE spot-dating to Arcview project

Integration of MoLAS and other specialist reports

About 30% of photographs indexed in ExCel

5.1.2 *Problems with the archive and the assessment*

It is important to note the problems inherent in the site record. This has hampered the stratigraphic, finds and environmental analysis process. The archive for this site was at best rather chaotic and some time was spent in merely trying to find relevant basic level information.

Understanding of the site sequence has also been hampered by the incomplete dating evidence available. This has resulted in a fractured and incomplete assessment of the site archive with the possible dates of only a limited number of features identified. The assessment of all finds, environmental and stratigraphic material should be completed prior to analysis. Within this assessment it has often not been possible to determine the residuality or intrusiveness of dating evidence. As a result, the provisional plans illustrated and discussed within this report are less complete (because not all dating material was assessed) and may differ from those previously suggested by the excavators.

Some of the other principal problems encountered include:

Contextual relationships between features had not always been finalised, for instance it had not always been recorded whether a feature(s) was earlier, later or

contemporary to another feature(s), but a physical relationship(s) was recorded. Hopefully these issues have been cleared up in most cases by clear dating evidence.

The lack of a modern, accurate site location survey. The site has been located in GIS by digitising a rectified aerial photograph and then coorelating the digitised plan record with the principal features (the triple-ditch enclosure) on the photograph.

The difficulty of locating features on multi-context plans.

The site falls into two parts – a trench across the triple ditch enclosure excavated in 1977 and a broader plan excavation from 1979. Sites codes RMHF-77 and RMHF-79 both exist but the former has been adopted, in the style R-MHF77, for Oracle inputting. Context numbers below 100 refer to the 1977 trench. These have not been dealt with as part of this stratigraphic assessment.

Contexts were originally given feature numbers which run 100–1899. In this system a cut and its fill were given the same number. This has been left unchanged where possible, but obviously caused problems in features with more than one fill. In these situations the additional contexted fills were sandwiched within a number that denoted both the top fill that sealed them and the cut that contained them. 77 new numbers 10001–10077 have been created to act as the cuts in these circumstances. An additional 30 numbers (10101–10130) were created to act as parents for contexts located in section (transects across ditches and the like). Some sections had never been given context numbers. Whilst some of the major sections in this category were dealt with, and given numbers 2001–2064, others remain to be sorted out. It should be stressed, however, that little dating information can be attached to these unnumbered contexts and most are fills of major features that do not add significantly to the topographical understanding of the site. There are, therefore, currently 1971 contexts from this site which have been inputted into Oracle.

A total of 737 contexts have been digitised, which covers all located cut features and including fills accounts for 1650 contexts. These contexts have been inserted into ArcView. Of the remaining 321 contexts 125 contexts have been defined as [+] or void, but this number does not yet include all the contexts that are potentially void. Further features that could not be located or were not excavated remain for further analysis. Of these, 8 features from Area C and 21 features in Area E are currently unlocated and not digitised. It is uncertain whether location plans for these features exist. About 196 contexts, therefore, require ‘mopping-up’ and digitising where appropriate.

A provisional period was attached to 1208 contexts based on the table below. This figure includes the void contexts coded 101. The number value has been entered into the entity number field at basic context level inputting.

PERIOD NAME	PERIOD CODE NUMBER
Natural	1
Mesolithic	2
Early/middle Neolithic	3
Late Neolithic/	4
EBA	5
MBA	6
LBA	7
EIA	8
MIA	9
LIA	10
Early Roman to c AD200	11
Late Roman (C3rd/4th)	12
Early/mid-Saxon	13
Saxo-Norman to c AD1200	14
Medieval	15
Post-Medieval	16
+ or void etc	101

Table 1 provisional periods attached to the stratigraphic dataset

A matrix dataset exists as **RMHFALL.lst** but considerable problems have been experienced in getting either the ArchEd or BONN matrix programs to generate a drawing without crashing, and none exists at this point in time. It is probable that the file has become corrupted. A basic matrix of planned features has been created and exists in a part edited Microsoft Word format.

No attempt has been made to allocate contexts to either groups or subgroups and no land-use structure has been imposed on the sequence.

5.2 Provisional post-assessment task list

Below is a list of some of the main tasks that need to be addressed at the next stage of analysis, leading to publication.

Completion of photo index

Completion of AutoCAD digitisation of plans from hand drawn 1:20 plans

Complete digitisation of section locations/creation of parent context locations for strata recorded in section only

Complete the attribution of context numbers to sections

Arctview GIS project generated from all digitised contexts

Creation of subgroups

Inputting of context to subgroup mapping in Oracle database
 Sub-group annotation of context matrices
 Reloading of context level .lst file into BONN to generate functioning matrix
 Compilation of sub-group matrices in BONN/ArchEd
 Apply dating evidence to sub-group matrices
 Establish group structure and compile group descriptive text; compile group matrices
 Map subgroup to group data into ORACLE database
 Establish landuse sequence and diagrams and compile landuse descriptive text
 Map group to landuse data into ORACLE database
 Establish periods; map period data into ORACLE database
 Establish period and/or phase driven plans using Arcview GIS linked with ORACLE completed dataset
 Principal author reading of MoL and other specialist publication reports
 Assessment of proximate sites data
 Establish final period and/or phase driven plans using Arcview GIS linked with ORACLE completed dataset
 Authorship of stratigraphic period text
 Finds review to finalize illustration and photography lists
 Full integration of all MoL and other specialist reports into stratigraphic text
 Prepare and submit stratigraphic, finds and environmental material to archive

5.3 The site archive and assessment: stratigraphic

Type	Description	Quantity	Notes
Context sheets	Excavation	1799	Single context sheets
Plans	1:20/1:100 variously sized permatrace sheets		Multi-context Plans of Areas A – F
Sections	1:10, 1:20	Not quantified	Sometimes described as ‘segments’ in primary archive
Miscellaneous		Not quantified	Notebooks, correspondence, project designs, finance documents, planning documentation, plans and summaries etc
Context matrices	Harris Bonn matrix data	2	Digital copies of context and plan matrices for entire site except 1977 evaluation trench
Photographs	Colour prints	Not quantified	
Colour slides	Slides plastic folders	about 1050	Part indexed

BW slides	Slides plastic folders	about 1250	Part indexed
Aerial photographs	Cropmark photos	Not quantified	NMR Aerial photographs

Table 2 Stratigraphic archive

5.4 Site archive and assessment : finds and environmental

Building material	83 boxes of which 35 recorded. All the building material has been retained.
Prehistoric pottery	438 sherds. Total 2.988kg
Worked flint	361 items, 5.110kg
LIA/Roman pottery	7062 sherds, weighing 92666g
Saxon pottery	1 sherd, 30 g
Post-medieval pottery	34 sherds from an estimated 33 vessels, 272 g
Worked timber	c 37 timbers
Accessioned finds	278
Bulk soil samples	6 bulk samples; flots from 6 samples; total 75 l
Animal bone	6281 fragments of animal bone weighing 30.392 kg. 16 archive quality 'shoeboxes'
Conservation	45 artefacts (16 coins) conserved, 5 artefacts and bulk pot to be treated

Table 3 Finds & Environmental Archive General Summary

5.4.1 The building material

By Ian Betts MoLSS

5.4.1.1 Introduction/methodology

The sampled building material 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. All the information on the recording forms has still to be added to an Oracle database.

5.4.1.2 Iron Age Belgic Brick

A considerable number of both fragmentary and complete Belgic bricks were recovered (listed below) in fabric group 3264 (individual types 2452, 3004, 3006). Various size groups are apparent which with further study may reveal important new information as to their likely function. Other complete examples, yet to measure, are on display in the Museum.

At least two bricks ([+], [110]) appear to be tapered, which is normally a feature of weights, although their fabric is more similar to definite Belgic bricks. Another brick ([110]) has scraped marks, possibly some kind of combing on one face. Another

brick ([598]) was what appears to be knife cut marks, possible representing trimming prior to firing.

One complete rectangular shaped Belgic brick from context [1117] has a 12mm diameter hole all the way through. It is located in the middle near one end. This may perhaps be a weight. However, other complete Belgic bricks in the same context lack holes. From Context [110] is a fired clay fragment with a 14mm diameter hole, added before firing, located 33mm from the edge. This may be part of a similar fired clay object to that found in [1117] or may perhaps be part of a perforated clay slab. Another probably Belgic brick from context [886] has a larger hole (33mm diameter) all the way through.

Context	Length	Breadth	Thickness
[+]	?	84mm*	79mm*
[+]	(75mm+)	51–53	48
[+](Area A)	?	83	61–65
[15]	(102mm+)	59	51–54
[15]	?	78	52–55
[15]	(86mm+)	52	46–49
[15]	?	104	54–56
[20]	c.130–139	63–77	62–72
[54]	?	49–52	45–48
[66]	c. 100	60–63	60
[110]	(132mm+)	c 81*	c 74*
[347]	?	59	56
[598]	?	60–62	46–52
[900]	99–104	48–57	46–54
[931]	(60mm+)	49–57	53–54
[974]	76–88	46–51	45–48
[1117]	193	94–103	65–76
[1117]	124–137	65–67	52–60
[1117]	97	54–55	45–54
[1117]	112–114	56	54–57
[1117]	100–102	53–59	50–54
[1117]	95–105	54–62	51–56

* end measurement, brick tapers outward

Table 4 Belgic brick (listed only those with two or more measurements)

5.4.1.3 Iron Age/Roman daub, mudbrick?

There is a considerable amount of daub, but most are abraded undiagnostic fragments. A few do, however, have what appear to be finger or tool marks on one surface ([795], ([1117]). One very unusual 72-74mm thick daub slab has a chambered end with

a hole 25mm diameter, its function is uncertain. Holes are present in other daub fragments from context [397] although these are much smaller (5-7mm diameter). These could be parts of perforated clay slabs.

From context [795] is what appears to be a type of mudbrick, or possibly another daub slab, 67-71mm in thickness, with the remains of a hole c 27mm in diameter.

5.4.1.4 Roman stone building material

All but one fragment of stone was found with Roman ceramic tile, which suggests it is of Roman date. The exception is an fragment of medium grained purple coloured sandstone from [100/900] which could have been utilised as paving. Although undated it is likely to be Roman.

Roofing/paving

Fine brownish-red sandstone, possibly roofing, was found in context [100], whilst the same stone cut to a brick shape was found in context [717]. The function of this unusually shaped stone is uncertain.

In addition to the possible Roman paving discussed above there is another possible fragment from context [759] again in fine sandstone. In London this stone type is occasionally found from the 1st century onwards, but the overwhelming majority are from 4th century contexts.

Rubble

Flint, possibly used as rubble infill, is present in contexts [661] and [1271] along with a chipped fragment in [214].

5.4.1.5 Roman ceramic building material

5.4.1.5.1 FABRICS

Early Roman fabrics

2454, 2815, 3028

Late Roman fabrics

2459B, 2459C, 3060B

Undated fabrics

There are four roofing tiles whose fabric type and date requires further studying.

5.4.1.5.2 FORMS

Roofing tile

The vast majority of fired ceramic tile present is roofing tile (tegula and imbrex). A most unusual fragment was found in context [1280] this has the bottom straight edge cut to a curved shape. The reason for this modification is not certain although the cut edge shows signs of slight blackening so it could have formed so sort of kiln structure.

Flue tile

The is a solitary fragment of combed box-flue tile from context [1280].

Brick

All the bricks are fragmentary so it is not possible to determine the types present, although their relatively small thickness (fabric group 2815: 28-45mm, fabric 2459B: 29-40mm) suggests they are probably parts of bessales, pedalis or lydion bricks

Markings on tiles and bricks

Signature marks

All the identifiable marks were on tegulae in fabric 2459B. Most are of common semi-circular type with two (type 10) or three (type 9) finger grooves. There is also a variant of signature mark 25 and a new mark type comprising semi-circular and vertical finger lines (now classified as type 36).

Animal prints

Two tegulae in fabric 2459B has paw prints ([655], [1191], although one is fairly faint.

Graffiti

A tegula in fabric group 2815 has the remains of what may be graffiti ([189]).

5.4.1.6 Post-medieval ceramic building material

5.4.1.6.1 FABRICS

Later fabrics

3046

Undated fabrics

2271, 2276

There are two post-medieval bricks whose fabric type and date requires further study.

5.4.1.6.2 FORMS

Roofing tile

Peg tile

There are fragments of late medieval – post-medieval peg tile (fabric 2276) in contexts [1] and [3]. Further peg tile (fabric 2271) was found in a post-medieval field drain ([749], [751], 752).

Pantile

A fragment of pantile (fabric 3202) with part of its nib (? x 21 x ? mm) is present in context [100].

Red brick

Part of a brick in fabric 3046 was found with Roman tile in context [594] where it may represent later contamination. Further post-medieval brick was found in context [25].

5.4.2 Prehistoric pottery

By Charlotte Thompson MoLSS

5.4.2.1 Summary/Introduction

The site 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.

5.4.2.2 Fabrics

A 25 percent sample of this site assemblage has been assessed, and so at this stage any conclusions are tentative. All of the sites in the East London Gravels project have been recorded using a single type series that has been created during the assessment phase of the project. This type series can be found in the global assessment for prehistoric pottery.

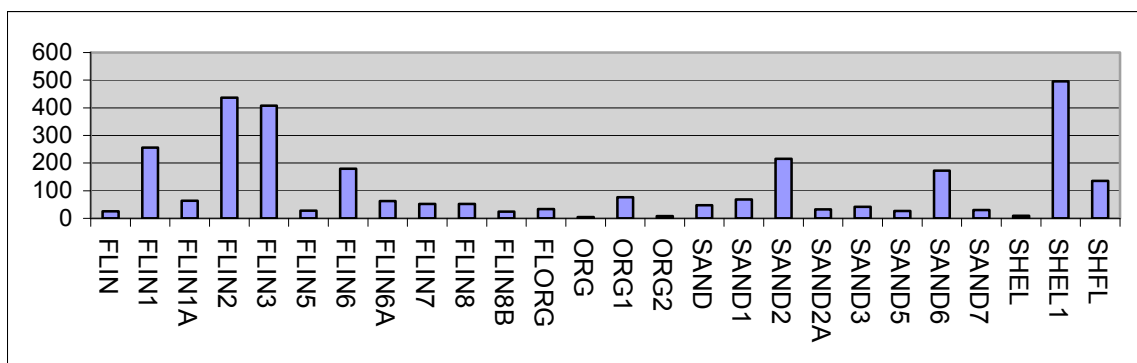


Table 5 Prehistoric pottery quantification by weight

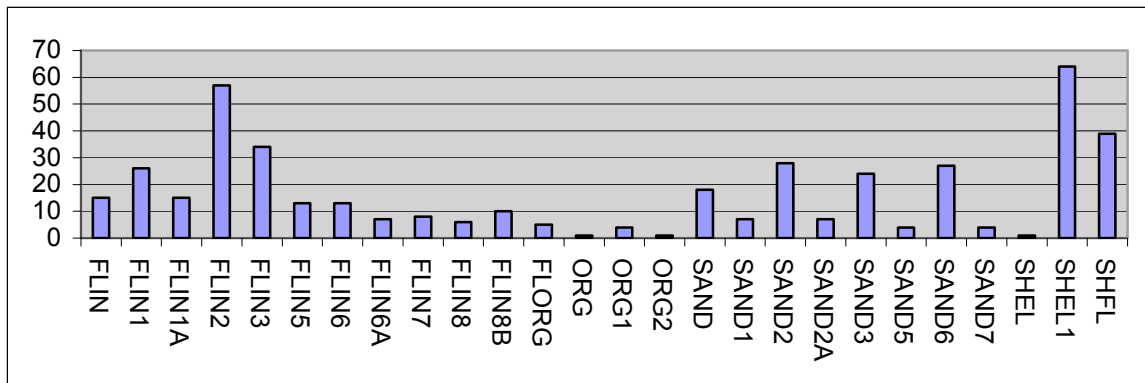


Table 6 Prehistoric pottery quantification by sherd count

Shell-tempered sherds dominate, making up 48% of the site assemblage by sherd count and 54% by weight. Sand-tempered sherds are the next most common by sherd count, making up 27% of the site assemblage, but 21% by weight. Similar amounts of shell-tempered sherds are also present, making up close to a quarter of the assemblage by sherd-count and 22% by weight.

What is interesting is the diversity of fabrics at this site as all but three of the fabric categories are represented at this site.

5.4.2.3 Forms and decoration

Thirteen Beaker sherds are present in [100], [310] and [322]. Sherds from [100] and [322] have rows of comb decoration and may belong to the same vessel, whereas all-over comb decoration appears on a sherd in [310]. A sherd from [100] has bands of impressed decoration, possibly bird bone on one band, and whipped cord impressions on another. Beaker pottery is dated 2500–1700 BC, however, the sherds from [310] and [322] are residual in Late Bronze Age or Early Iron Age contexts. Despite this, these sherds represent the largest selection of Beaker sherds found in the East London Gravels project, and are therefore significant.

There are a handful of sherds that can be paralleled at Little Waltham: a sherd paralleled with form 2, an everted rim jar with a well-defined shoulder, appears in [1233], and context [630] contains a sherd similar to form 5, a vessel with a small pointed and everted rim and a hemispherical body. Context [561] has a sherd similar to form 13, an everted rim bowl with a footring, and context [830] has a sherd similar to form 15A, a bowl with a pointed, in-turned rim (Drury 1978, 54-56). Radiocarbon dates from Little Waltham indicate a late to mid 3rd century BC date, the Middle Iron Age, for the bulk of these forms (*ibid*, 126-127).

What is striking is the surprisingly few sherds which have been decorated or treated. Aside from the Beaker pottery, there is a sherd with a cabled rim in [1124] and an everted rim sherd in [733] with fingertip decoration on the shoulder. There are four flint-tempered coarseware sherds with smeared exteriors, which tend to indicate a Late Bronze Age date (Brown 1998, 7).

5.4.2.4 Discussion

The handful of Beaker sherds at this site indicates some background Late Neolithic/Early Bronze Age activity. There is also evidence of Late Bronze Age activity as a number of Late Bronze Age coarsewares are present at this site. By sherd count eight percent of the assemblage is made up of fine ware bowl sherds, which using fabric and form comparisons from other sites in the East London Gravels project, are Late Bronze Age and Early Iron Age in date.

There are a few Middle Iron Age fabrics at this site that are particular to the site, such as SAND2A and FLIN6A. Both of these vary from the standard fabrics as they contain in the case of FLIN6A moderate burnt organic inclusions, whereas SAND2A has increased organic inclusions but it is also a distinctive brown/black colour. At present just under 2% of the sherds by sherd count and 1% by weight are SAND2 and 2% by both weight and sherd count are FLIN6A, so they are small quantities. However, when the dataset is complete, it is possible that greater quantities of these fabrics are found.

Of the selection of sherds that have been assessed at this site, some reveal manufacturing techniques. A sherd in [1124] has streaks of white quartz-rich clay, similar to Verulamium Region White ware, which illustrates that the clays were mixed to give the potter the desired consistency. Sherds from [324] have evidence of a slurry or self-slip on the exterior, which is flaking off in places revealing a markedly different colour and texture beneath.

5.4.2.5 Conclusion

As only a quarter of the site assemblage has been assessed, the evidence is piecemeal. However, it is clear that there is use of the site occurring over a range of periods from the Late Neolithic/Early Bronze Age through to the Middle Iron Age.

5.4.2.6 Assessment work outstanding

Only a quarter of the prehistoric pottery assemblage has been assessed.

5.4.3 Prehistoric worked flint

By Lynne Bevan

5.4.3.1 Summary/Introduction

All of the worked flint from this site 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. Utilisation and re-fits were noted. The flints were weighed by context (or other) group for inputting into the MoLAS database.

5.4.3.2 Discussion

A high proportion of the flint originally collected was found to comprise unworked chunks and pebbles, often water-rolled and broken by thermal, or other natural, agency. The vast majority of the remaining worked flint, 361 items, weighing 5.110kg, comprised flint-knapping waste – mainly flake cores, chunks and broad flakes indicative of later prehistoric flintworking. The flint was of unpredictable, often poor, quality. The unpredictable quality and, where present, thin remnant cortex, indicated that most, if not all, of the flint originated from a secondary, probably river gravel, source. Most flint ranged from light to medium brown and grey in colour, often tinged with yellow but there were also several pieces of flint of a distinctive translucent deep brown colour with a dark orange stripe located just beneath the cortex. This superior quality flint is most probably Bullhead Bed flint which occurs naturally in the terrace gravels, usually sourced to the Thanet Sand over Chalk (Cotton 2002, 69). It could have been brought to the site by human groups or incorporated in local gravel deposits by river action (*ibid*, 69). Although probably derived from a similar secondary source to the majority of the assemblage, this flint tended to be of a slightly better quality. The same type of flint has been found on many sites in and around London (e.g. Cotton 2002; Bevan forthcoming) and is also present among the assemblage from Uphall Camp, Ilford and Great Arnold's Farm, Rainham considered elsewhere in this volume.

Potentially earlier Neolithic elements in the assemblage include a pressure-flaked blade (741), a small collection of c.50 items of possible Neolithic knapping debris, among which refitting might be possible (622), and several unretouched blade-like flakes. However, most waste flakes were broad and squat and typical of Later Neolithic to Bronze Age technology (Pitts 1978). Some smashed chunks might be of Late Bronze Age date, in common with similar material from the riverside zone at Runnymede Bridge, Egham, Surrey (Bevan forthcoming). While contemporaneity cannot be assumed among all elements of the assemblage, a generally later Bronze

Age date is also suggested by the low occurrence of formal tools and retouched items in the assemblage (Herne 1991). It is also possible that some material might date to the Iron Age (Humphrey and Young 2003).

Traces of possible utilisation were noted on some of the material, although much of the unretouched flakes and other debitage appears to have sustained edge damage which is easily confused with utilisation.

5.4.4 LIA/Roman pottery

By T.S. Martin

5.4.4.1 Introduction/methodology

For purposes of assessment only a selection, estimated at 25% of the assemblage, could be examined. The following criteria were applied in making the selection. Pottery from surface collections and where it was uncertain whether or not it came from a specific feature (*e.g.* where finds were assigned more than one context number, such as 1614/107) were not recorded. The pottery appears to have been bagged by context/feature, then divided into co-ordinates, presumably this signifies an attempt to record finds by grid-square. Some context/feature codes also have sub-divisions, such as Layer 1 and Layer 2. Where this is the case pottery has been recorded separately. A total of 7062 sherds, weighing 92kg, was recorded. This material comes from a total of 148 contexts and was contained in 58 boxes.

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). This has allowed compatibility with current and previous work in Essex. The aim was to provide an overview of the chronology as well as to identify the presence of large securely-dated groups.

5.4.4.2 Fabrics/forms

Forty fabrics or fabric groups were recorded (excluding samian). The sample of pottery examined has provided a rough guide to the overall chronology of the site. A clear chronological bias towards the late Iron Age and early Roman periods was identified.

The three main fabrics comprise early shell-tempered ware, grog-tempered wares and Late Iron Age coarse wares and these account for just over 71% of the entire assemblage. Imports are confined to a few *terra nigra* and Gallo-Belgic white ware sherds. Early Roman imports to the site are largely confined to small amounts of Colchester buff ware, Verulamium region white ware, and North Kent wares.

Mid and late Roman contexts were barely represented, as demonstrated by the relatively small number of bead-rimmed dishes present (types B2/B4). Traded cooking fabrics such as BB1 and BB2 are also rare, as are table wares such as Nene Valley colour-coated ware, thus emphasising the relatively poverty exhibited within the assemblage. The only notable import is a tiny amount of East Gaulish Rhenish ware.

A change is discernable towards the end of the 4th century. A number of contexts containing 'latest' Roman pottery (*i.e.* dating to post *c.* AD350/70) were also

identified. These contained Oxfordshire red colour-coated ware, Portchester D, late shell-tempered ware, and Alice Holt grey wares. However, contexts of this date also contain high levels of Late Iron Age and early Roman material and the amounts of late Roman pottery present in any one given context are generally minimal. Late and latest Roman contexts also provide the bulk of the mortaria on the site.

Based on sherd count, fifteen medium-sized groups, five large groups and just one very large group were examined. However, only five contexts contained more than 2.7kg of pottery and only three more than 4kg. Well context 821 produced 5,515 sherds weighing 58.1kg (although a further eight boxes of material currently residing in the Museum of London store were not recorded). This accounted for approximately 63% of all pottery examined. By any standards this represents a significant accumulation of pottery and is one of the largest from the region. This material can be dated to the mid-1st century AD with some confidence although there are several pieces that are considerably later in date. This component, however, is small and can be dismissed as being intrusive. A strong case can thus be made for studying this group in detail and quantifying using EVE (Estimated Vessel Equivalence based on rim percentage).

Context 821 appears to contain a wide variety of material, but is dominated by locally made shell-tempered wares. Detailed analysis is required to ascertain whether or not the main suppliers were based at sites like Mucking in South Essex (Jones and Rodwell 1973), or if it is possible to demonstrate the presence of vessels from kilns at Higham in North Kent (Monaghan 1987). However, the predominance of *Cam* 254 and lid-seated jars (G5.1) would indicate that supply was probably mainly derived from Essex kilns with the bead-rimmed storage jars more typical of North Kent production being rare.

Context 971 contained a group of 155 sherds weighing 3.6kg and is of similar date to 821. Consequently, this group is not worth studying. The remaining large groups (contexts 1192, 1280 and 1281) all contained single sherds of latest Roman pottery. However, coarse ware dish types datable from the late 3rd century onwards (B6) are absent, although context 1281 contained a flange fragment that could be from either a B5 or B6 type dish. The identifiable forms are generally pre-3rd century in all three groups. Indeed, the impression gained from these groups is in some ways reminiscent of Ship Lane, Aveley (Martin 2003). It is possible that there is sub-regional patterning in that pottery of late Roman date, especially that derived from local sources, is barely present (hiatus in pottery supply *c.*280-350) until after *c.* AD350 when supply is largely confined to the major late Roman regional suppliers.

5.4.4.3 Conclusion

A wide variety of pottery was recovered from the site, which is reflected in the range of fabrics and sources represented. Pottery was recovered dating to the entire Late Iron Age and Roman periods (*c.* 50BC to *c.* AD400+). However, the pottery recorded was predominantly of Late Iron Age and early Roman in date with relatively little present that must be later than *c.* AD130.

5.4.4.4 *Assessment work outstanding*

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 ought to be bagged and boxed separately from pottery of other periods. A case can also be made to examine the pottery not examined during the initial stage of assessment so the research archive can be brought up to a unified standard. This material ought to be studied, as there are several large deposits of pottery present, which might provide important additional data about the site. Comparison should be made with the pottery work done previously in order to assess the standard of recording.

5.4.4.4.1 LIST OF GROUPS FOR QUANTIFICATION

Only one group of any real significance was encountered during the assessment. At present, only the group from context 821 presents itself for quantification and detailed analysis.

5.4.4.4.2 LIST OF POTTERY FOR ILLUSTRATION

Because the pottery from context 821 is of such importance, all of the illustrated sherds in the archive should be published to emphasise its regional/national significance. However, the range of pottery illustrated should also reflect the range of pottery present on the site including material of intrinsic interest (*i.e.* sherds that have been modified for secondary use). Some of the latest Roman pottery will also require illustration.

5.4.5 *Saxon pottery (c 400–1050)*

By Lyn Blackmore

5.4.5.1.1 METHODOLOGY

The one possible sherd of Saxon pottery was found was examined macroscopically and using a binocular microscope (x 20), 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.

5.4.5.1.2 FABRICS

The fabric contains abundant fine sand, sparse larger rounded sand up to 0.5mm across and moderate fine organic matter in a micaceous, silty matrix.

5.4.5.1.3 FORMS

The sherd is from the flat-topped, slightly beaded rim of a rounded bowl or jar.

5.4.5.1.4 DISCUSSION

It was stated that there was no sign of Saxon or medieval features on the site (Greenwood 1982, 193), and it is quite possible that the sherd described above is of Iron Age date. Early Saxon pottery was found at Lessa Sports Ground, near Moor Hall Farm, and there is a Saxon cemetery nearby. It might, therefore, be expected that a few Saxon sherds would occur on this site. None was noted in the quite detailed records by Ann Thompson, but it has to be acknowledged that some Saxon fabrics have been listed as prehistoric or Roman on other sites in the UELG project. As time limitations prevented a scan of all the finds, this might still be the case; it needs to be

established how much of the prehistoric and Roman material was examined for this project.

5.4.5.2 Assessment work outstanding

There is no work outstanding.

5.4.6 *Post-medieval pottery (c 1500–1900)*

By Lyn Blackmore

5.4.6.1.1 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.

5.4.6.1.2 FABRICS

A range of late 18th- and 19th-century fine wares was recovered.

5.4.6.1.3 FORMS

Most sherds are from tablewares, but a few jars and flowerpots are represented; some sherds are very small and could not be assigned to a form.

5.4.6.1.4 DISCUSSION

The pottery represents domestic material that probably reached the site through manuring of the fields. One sherd is from the lane ditch ([345]), but most is from field drains ([749], [751], [752]) or unstratified ([100]). One sherd of post-medieval redware is from a row of post-holes ([161]). Two contexts could not be located ([7] and [25]).

5.4.6.2 Assessment work outstanding

There is no work outstanding.

5.4.7 *Ancient woodwork/timber*

by Damian Goodburn

5.4.7.1 Introduction/methodology

The size of the overall project and disparate nature of the site archives precluded the usual practice of scanning the total context and drawn record for initial information about wooden structures and individual items of worked roundwood and timber of interest. Approximately 132 pieces of surviving worked timber or roundwood had been moved to Mortimer Wheeler House as part of the finds archive for the project and these were examined in 2004. About 33% of the 132 ELG timbers (c 37?) are from RMHF. These all appear to have been conserved with PEG and to be moderately stable but they will need rewrapping in bubble pack and relabelled

It is suggested below that for key groups of surviving worked roundwood and timber elements the records could be completed for a representative sample up to

generally acceptable standards. This would complete the basic archive and allow comparison with material from elsewhere and detailed analysis also feeding into more popular outlets such as graphic paper or digital reconstructions. Clearly this can not be carried out for waterlogged wood recorded but now discarded except perhaps where very clear photographs survive.

5.4.7.2 Well [265]

A sequence of post-excavation axonometric drawings survive for timber well lining [265] and, although the drawing lacks some details, almost all the surviving unlabelled timbers of the well can be identified using it. 12 main plank elements all survive. Additionally a further 25 small unlabelled, treated, but crushed oak fragments which may have come from this structure but could not be refitted were discarded. They had no potential for dating or further analysis.

This well is dated by pottery in the fills to the late Roman period. The worked timbers from this well were the lower part of the lining and they survive in conserved condition. Three tiers of planks, set on edge, were lifted and recorded. They are all of oak (one of the two native sp. or a hybrid). The planks were jointed at the corner with what at first sight seemed like a laft joint (quarter depth notch cut in the edge of a timber common in Saxon work). However, the joint was cut more deeply to just about the full half width of the planks so that each course lay more or less flush and was not joined to the one below or above. With the overlapping ends, the well lining was about 1.5 x 1.3m.

The planks of the lower two courses were made by cleaving medium sized oak logs c. 0.45m diameter in half followed by trimming with axes to form rather rough, slightly twisted planks of varied width and thickness up to c. 360mm wide by 90mm thick. The planks of the well became thinner and narrower higher up and the 3rd course included some planking radially cleft from a larger straighter parent log. The ends of the planks were all axe cross-cut rather than sawn. This type and method of conversion of planks is not known from Roman London where planks found to date and recorded in detail have always found to have been prepared by sawing methods from hewn baulks. The conversion methods and axe cross-cutting does again look more Anglo-Saxon than Roman compared to the formal work found in Roman cities such as London or York. However, we are beginning to see that in rural or even outer 'suburb' contexts typical Roman methods of woodworking were not always used. This well lining is clearly 'rustic' work by people working largely in a 'barbarian' or native style.

The tool mark survival is remarkably good even post conservation and it is clear that much of the work was carried out with a narrow bladed (c. 70mm width of blade) general purpose woodman's axe. However, close examination of some of the very deep and straight halving notches has revealed traces of a typically Roman tool, a cross-cut saw. Thus, although the structure presents a very rustic appearance one of the classic Roman woodworking tool types was used in its making, the cross cut saw. The Anglo-Saxons used axes and adzes for this type of work as in the lafted well lining recorded recently from Barking Abbey for example.

With a little further recording the existing axonometric could be amended and a reliable graphic reconstruction could be produced. This could then be scanned and used digitally.

Tree-ring dating post-conservation has been successful in a number of cases and it may be worth attempting in this case. Several of the planks appear to have around 70 rings and full sapwood occurs on some of the timbers. Any slices removed could be replaced and glued back in position. Dating would not have been easy in 1979 but now a positive result is much more likely with the chronologies now available for the region.

5.4.7.3 Parent tree types

The parent tree(s) for the plank logs were of medium growth rate and only moderately straight and fairly knotty for the lower courses. They would have been c. 0.45 m diameter at chest height and were not high quality for cleaving. A straighter, less knotty log from a larger girth tree was used for the radially cleft 3rd course boards which must have been around 0.7m in diameter but was fairly fast grown. This range of timber can be found in the London region in managed ancient woodland to day; it does not derive from wildwood.

5.4.8 The accessioned finds

By Angela Wardle

5.4.8.1 Introduction/methodology

The assessment builds on work previously undertaken for the site and the finds were examined in conjunction with the available records. Further accessions were identified from the bulk finds records and details entered on the MoLAS Oracle database.

R-MHF77	pre/I Age	Roman	Med	P-med	unknown	total	comment
Stone		4	1		35	40	31 querns
Flint	31				1	32	
Ceramic	38	5		2	3	48	
Glass		11		1		12	
iron		20	1	1	78	100	
copper	1	22	1	1	10	35	16 coins
lead					6	6	
silver		2				2	
leather					1	1	
wood					2	2	
totals	69	64	3	5	136	278	

Table 7 Summary of accessioned finds by material and period

The table shows the number of accessioned artefacts by material and broad date range. This includes objects on the original finds list, with the exception of pot sherds, and additional artefacts, loom weights, ceramic objects, glass and flint which were extracted from the bulk finds. As many worked flints had already been accessioned it was decided to accession the remainder from the bulk material to ensure consistency within the site.

5.4.8.2 *Previous work*

A finds list enumerates 217 accessioned small finds and there is a comprehensive draft finds catalogue (?author) comprising good archive descriptions of the objects, arranged by material. As this was prepared in the early 1980s it is inevitable that some references could be updated, but the descriptions are thorough. The coins have been identified by John Kent. It is probable however that the reports were typed and not word processed. The finds have not been related to site features, although the context numbers and grid references are given with each entry and there is no discussion

5.4.8.3 *Categories by dating and materials*

5.4.8.3.1 STONE

A few of the querns from this site were seen by H. Major and D.G. Buckley in 1982. Several of those listed at the time now appear to be missing.

This is the second largest group of querns in the study. Only rotary querns were present, in lava, Millstone Grit and puddingstone. The single puddingstone quern was residual in a later Roman feature. All the lava upper stones from the site appear to be kerbless (and without the 'pseudo-kerb' of the Hunts Hill Farm querns). There is evidence from other sites to suggest that this is a late Roman feature, and it will be interesting to see whether they are all from later Roman contexts (This paragraph contributed by H. Major).

Apart from quern fragments the only identifiable objects were a decorated shale bracelet <164> of 3rd/4th century date, a medieval hone <263> and a circular worked and abraded stone which appears to have been used as a polisher or rubbing stone <276>[381]. This is of unknown date. There are two further fragments which may be hones. SF<264> is a natural spherical nodule which has been retained as such objects are known to have been collected in prehistoric periods. Its context date is as yet unknown.

5.4.8.3.2 FLINT

Assessed elsewhere

5.4.8.3.3 CERAMIC

Twenty three fragments of triangular loomweight were found. Two SF<220> and <224>, both from context [1117] are complete and the same context produced a further 7 fragments, some substantial. Although these objects are conventionally called 'loom weights' other functions are possible – including use as 'thatch weights' or as kiln furniture. Several are exceptionally large and heavy, seemingly unsuitable for use as loom weights.

The assemblage includes 14 'Belgic bricks', hard fired rectangular blocks of varying sizes, finish and weight. Ten are from the same ditch context as some of the loomweights [1117]. The function of these objects is as yet speculative (see below), but one SF<284>, is perforated and may have been used as a weight.

Five spindle whorls are made from Roman potsherds; a complete example is inscribed <21>. A fragment of Venus figurine <182> is a comparatively rare find from a non-urban site.

5.4.8.3.4 GLASS

Most of the Roman glass fragments, which are small come from unidentifiable vessels in naturally coloured glass, although one <174> appears to be of late Roman date. SF<31> comes from a flask or jar with tubular rim and <277> is from a square bottle (Isings 50). A glass bead <11>, is of later Roman date and an alley <279> is post-medieval.

5.4.8.3.5 IRON

Some objects are identifiable, but most (at least 70) are nails. Much of the ironwork has deteriorated severely since x-ray and earlier cataloguing. There is a potentially interesting group from context 1117 and the objects for conservation/cleaning <190, 191, 196> may be ploughshares of Iron Age form, but could be socketed tools. There is another socket, perhaps from a tool, from context [165] SF<6>, but this may be later in date (see finds catalogue). Two knives were also recognised <53>, <75>, a variety of mounts and fittings and the hobnails from a Roman shoe <81>.

5.4.8.3.6 COPPER ALLOY

Sixteen of the 35 copper-alloy objects are coins (see below). The earliest brooch a fantail (on display) dates from *c* AD150 to AD 50.

Two one-piece 'Nauheim derivative' forms <39>, <116> may be pre-conquest as the form survived until about AD 60, while a trumpet brooch probably dates from the late 1st/early 2nd century <62>. Four bracelets date from the 3rd or 4th century, the best preserved a 4th-century decorated strip bracelet <117>. Two of the others are strip forms, the remaining example a two-piece cable fragment <51>. An Iron Age spiral finger ring <68> is displayed at MoL.

The rest of the copper alloy is too corroded or fragmentary for identification, consisting of small strips, sheets and fragments.

5.4.8.3.7 LEAD

The six fragments appear to be waste from demolished buildings or other scrap.

5.4.8.3.8 LEATHER

The single accession consists of undiagnostic fragments of sheet leather.

5.4.8.3.9 WOOD

Undiagnostic.

5.4.8.4 *Functional analysis*

A range of functions are represented in the material assemblage, over a lengthy chronological span. All the personal ornament is Roman. Two of the four brooches SF<39>, <116>, both from context [771] date from the early to mid 1st century, and could be pre-conquest. A fan tail brooch SF<74> from the same group is a late Iron Age type and loom weights and 'bricks' were found in association. An late Iron Age spiral finger ring is unstratified. The remaining jewellery dates generally from much later in the Roman period consisting of copper-alloy bracelets, two of which are distinctive 4th century types, SF <17>, <117>. Two other bracelets are less diagnostic but are likely to be 3rd/4th century. Pat of a shale bracelet Sf<163> was also recovered. None of the bracelets are grouped and their stratigraphic position is

uncertain. The final object in this category is a single glass bead, SF<11>, probably of late Roman date. There are none of the items used for personal grooming which are traditionally associated with Roman culture.

The site produced at least 20 fragments of late Iron Age triangular clay weights, nine of which were from a single ditch fill [1117]. Such weights are commonly found on Iron Age sites, for example Danebury (Poole 1984, 406) and as Poole points out, although usually said to be loom weights, used to tension the warp threads on an upright loom, other functional interpretations are possible. Use as thatch weights has sometimes been suggested, but unless hard fired, outdoor use would be impracticable. It should be noted that the weights from Orsett 'Cock' Enclosure, Essex, which were interpreted as loom weights, were also found chiefly in ditches (Major 1998, 109 fig 71). Several spindle whorls which definitely belong to among the implements used for the production and working of textiles are cut from Roman potsherds.

The only 'domestic' implements, which, like the loom weights and spindle whorls would provide information about the local economy, are querns, assessed elsewhere by Hilary Major. Two tanged Roman knives are the only tools for which the identification is confirmed but three socketed implements found in the same context as the loom weights, which require investigative cleaning, may be ploughshare tips of late Iron Age form. Other tools of uncertain date area stone hone and a possible polishing stone SF<276>. The site produced a very small number of fittings, two miscellaneous iron straps and a ring fitting, together with numerous unphased nails.

A fragment of Venus figurine SF<182> is an unusual find for a rural site. These small cult objects, imported in large quantities from Gaul in the late 1st and 2nd centuries AD are more usually found in towns, villas or shrines. The presence of such an object here may point to trade with Londinium.

The 'Belgic' bricks, found in association with clay weights and possible ploughshares are of uncertain function. The term was first used by Wheeler (Wheeler and Wheeler 1936, 178–80) to describe a group of rectangular fired clay slabs from Verulamium, but his interpretation of their function as building bricks is no longer accepted (Major 1998, 107). Use in kilns has been suggested but at Orsett 'Cock' Hilary Major (ibid) suggest that they may have had a use in connection with baking, perhaps as pot stands, as several were found in association with a domestic oven.

5.4.8.5 Provenance of objects

Most of the finds appear to come from ditches or pits associated with the settlement and there are some preliminary groupings, but further analysis is required. Much of the Iron Age material comes from provisional period 10 (LIA) and ditch context [1117].

5.4.8.6 Assessment work outstanding

The packaging of the metal finds, although neat and carried out in accordance with 1970s standards, is now inadequate and not consistent with modern practice. The copper alloy is packed in slide top boxes with old spongy yellow foam, which is not good for the metal. Many of the paper labels, which have to be withdrawn and unfolded in order to see the find number, are in contact with the objects. Blue biro has

frequently been used for labelling. The individual objects are packed in a cardboard box, and therefore are without silica gel. Repackaging is strongly recommended.

Many of the iron objects, although in plastic boxes (with coloured silica gel) are in brown paper bags or flimsy plastic bags sealed with masking tape (which split when the tape is removed); most have paper labels or brown luggage-tag labels. Most of the iron nails have disintegrated since the finds catalogue was written and could be discarded, but they have been x-rayed and there was insufficient time to de-accession them during this assessment. Repackage/discard.

5.4.9 Coins

5.4.9.1 Introduction/methodology

The 18 coins (16 copper alloy , 2 silver) have been examined and identified by John Kent.

5.4.9.2 Summary of Roman coins

Date	Emperor	number
1st century		2
156-157	Antoninus Pius	1
193-211	Septimius Severus	1
286-296	Carausius/Allectus	1
317-326	Crispus	1
330-341	Constantinian	3
330-341	Constantinian irregular	1
337-350	Constans	1
337-361	Contantius II	1
364-378	H of Valentinian	1
Undated		5
		18

Table 8 Summary of the Roman coins

As can be seen from Table 8 the majority of the identified Roman coins date from the late 3rd and 4th centuries,

5.4.10 The plant remains

by John Giorgi

5.4.10.1 Introduction/methodology

During excavations at the site, environmental bulk soil samples were taken for the recovery of biological remains including plant material. Six of these samples were processed for assessment. The aim of this assessment was to establish the level of preservation, the item frequency and species diversity of any plant material and the potential for providing information on arable agriculture and local environment.

	No. boxes	No. items
Charred & waterlogged plant remains	1	6 flots (4 dry, 2 wet) 6 residues
Faunal remains	1	2
Artefactual remains	1	3

Table 9 Contents of flotation sample residues

Four of the six samples were from late Roman (3rd/4th Century) contexts; two pit fills [147], [170], an external dump [146] and the primary fill [264] of a well. The two other samples were from sumps/water collection pit fills, one of which, feature [1112] was dated to the Iron Age. The other feature [405] has yet to be dated. The samples ranged in size from 5 to 20 litres in volume although the majority were ten litres.

The samples were processed on a modified Siraf flotation tank with sieve sizes of 0.25mm and 1mm for the recovery of the flot and residue respectively. All six samples produced flots. Two of the flots produced 'waterlogged' plant remains and therefore were stored in IMS. The remaining four flots were dried. The sample residues were also dried and sorted for biological and artefactual remains and any material passed onto the relevant specialist. The processing and residue sorting information was entered into the Oracle database system. The flots were scanned using a binocular microscope and the item frequency and species diversity of all biological remains was 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

5.4.10.2 Charred plant remains

Charred plant remains were present in all six samples with occasional to moderate amounts of fragmented charcoal in all the flots with several potentially identifiable fragments in Roman well fill [264].

Cereal grains were present in five of the six flots with large quantities (over 100) in the Roman pit fill [147] and moderate amounts in the Roman external dump [146] and well fill [264]. There were also occasional grains in sampled Roman pit fill [170] and Iron Age sump fill [1112]. The wheat grains included glume wheats, emmer (*Triticum dicoccum*), emmer/spelt (*T. dicoccum/spelta*) and possibly free-threshing wheat (*T. cf. aestivum*), while barley (*Hordeum sativum*) was also recognised. There were a few oat (*Avena* spp.) grains in one sample. The condition of the grain was variable.

Cereal chaff was also represented in three samples with particularly large amounts in external dump [146] and well fill [264] with moderate amounts in pit fill [147]. The chaff consisted mainly of wheat glumes and some barley rachis fragments. Charred weed seeds were present in the same three samples with the best weed seed assemblage being in pit fill [147] with only occasional weed seeds in [146] and [264]. The weed seeds included several grasses, eg. bromes (*Bromus* spp.), rye-grass (*Lolium* spp.) plus characteristic arable weeds, eg. stinking mayweed (*Anthemis cotula*).

5.4.10.3 Waterlogged plant remains

Waterlogged plant remains were present in variable amounts in all six samples. The possibility that these remains are intrusive cannot be ruled out although it is interesting to note that the richest assemblages in terms of seed frequency and species diversity were in the potentially well-sealed and deep features, the primary fill of the well [264] and the fills [405] and [1112] of the two sumps. These samples also contained a large amount of fragmented wood and occasional moss fragments. The other three samples contained smaller amounts of waterlogged seeds.

All the recognisable seeds were from wild plants with both disturbed (including cultivated) ground and waste places eg. oraches/goosefoots etc (*Atriplex/Chenopodium* spp.), chickweeds/stitchworts (*Stellaria* spp.), thistles (*Carduus/Cirsium* spp.), knotgrass (*Polygonum aviculare*), buttercups (*Ranunculus* spp.), docks (*Rumex* spp.), nettles (*Urtica* spp.), and occasional wetland plants, particularly rushes (*Juncus* spp.). Details by context are shown in Table 4.

5.4.10.4 Faunal remains

Faunal remains in the sample residues consisted of only occasional large mammal bone in two samples from pit fill [147] and sump fill [1112]. These are assessed in the animal bone report.

1.3.1.5 Invertebrate remains

There was a high frequency of beetle fragments in the flots from the sampled fill [1112] of a sump and a moderate sized assemblage from the other sump fill [405].

5.4.10.5 Artefactual remains

There were very few finds recovered from the sample residues with occasional fragments of pot in [146] and [147], burnt flint in [147] and [170], and waste flint in [170].

5.4.10.6 Summary, Iron Age

Botanical remains in the one sampled fill [1112] of a waterhole/sump consisted mainly of a large number of waterlogged weed seeds and wood plus occasional charred grains and charcoal.

5.4.10.7 Summary, Late Roman

Three of the four late Roman samples ([146], [147], [264]) produced rich charred plant assemblages of cereal grain and chaff and weed seeds (the latter mainly in [147]). The well fill [264] also contained identifiable charcoal as well as a high frequency and species diversity of waterlogged weed seeds. The other Roman pit fill [170] sample only contained a few grains and charcoal and a large number of probably intrusive modern seeds.

5.4.10.8 Summary, undated

The undated sump fill [405] contained a rich waterlogged plant assemblage with a high seed frequency and species diversity of wild plants and a large quantity of waterlogged wood.

5.4.11 The animal bone

by Alan Pipe MoLSS

5.4.11.1 Introduction/methodology

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.

5.4.11.2 Results

R-MHF77 produced the largest group within the project assemblage, 30.392 kg, approximately 6281 fragments, of moderately or poorly preserved animal bone mainly in the 25-75 mm size range. This material derived predominantly from adult ox and sheep/goat with smaller components of adult pig, horse and dog. There were single finds of chicken from [751], mallard/domestic duck from [264] and red deer from [926], the only recoveries of these species from the whole group of assemblages. Context [100], undated at time of writing, produced a virtually complete adult dog skeleton. Evidence suitable for study of age-at-death consisted of 38 mandibular tooth rows and 136 epiphyses. There were 21 measurable bones including seven complete longbones. Evidence for modification was slight and consisted of occasional butchery marks on horse upper limb from [171], ox head [1660], upper limb [1159], lower limb [821] and vertebra [1281]. Burning was seen on ox upper limb [9], toe [807] and sheep/goat upper limb [23], [700], [1629] and lower limb [821]. Evidence for the presence of juveniles was seen on ox from [23], [821], and [933]; and sheep/goat from [2], [23], [178] and [821].

5.4.11.3 Summary by period (Table 10)

The periods used to subdivide the assessed animal bone were ascribed to the field Oracle dataset prior to the reception of updated pottery data and are unrevised in the light of that data.

Prehistoric

A total of 9.318 kg, approximately 1572 fragments, of moderately well-preserved animal bone were recovered by hand-collection from R-MHF77. Fragment size as generally in the 25-75mm range. At the time of writing 0.215 kg, approximately 51 fragments, of this material derived from the Middle Iron Age with 9.103 kg, approximately 1521 fragments from the Late Iron Age.

The Middle Iron Age material produced only three epiphyses with no other evidence for age at death; there were no measurable or complete longbones. The Late Iron Age material produced 11 mandibular toothrows and 26 epiphyses suitable for study of age-at-death; there were only three measurable longbones with no complete examples.

Roman

A total of 12.682 kg, approximately 3436 fragments, of moderately well-preserved animal bone were recovered by hand-collection from R-MHF77. Fragment size was generally in the 25-75mm range. At the time of writing 1.921 kg, approximately 359 fragments, derived from early Roman contexts with 10.761 kg, approximately 3077 fragments, dated as late Roman.

The early Roman material produced only three mandibular tooth rows and three epiphyses suitable for study of age-at-death. There were no measurable or complete longbones. The late Roman material produced a larger sample with ten mandibular tooth rows and 47 epiphyses, although there were only two measurable long bones with no complete examples.

PERIOD	CODE	WT (kg)	NOS	MAND-IBLES	MEASUR-ABLE	EPIPH-YSES	LONG-BONES
	0	8.150	1639	14	16	52	7
Natural	1	0.034	18	0	0	0	0
Mesolithic	2	0	0	0	0	0	0
early/middle Neolithic	3	0	0	0	0	0	0
late Neolithic	4	0	0	0	0	0	0
EBA	5	0	0	0	0	0	0
MBA	6	0	0	0	0	0	0
LBA	7	0	0	0	0	0	0
EIA	8	0	0	0	0	0	0
MIA	9	0.215	51	0	0	3	0
LIA	10	9.103	1521	11	3	26	0

early Roman to c AD200	11	1.921	359	3	0	3	0
late Roman (C3rd/4th)	12	10.761	3077	10	2	47	0
early/mid- Saxon	13	0	0	0	0	0	0
Saxo-Norman to c AD1200	14	0	0	0	0	0	0
medieval	15	0	0	0	0	0	0
post-medieval	16	0.208	19	0	0	5	0
TOTAL		30.392	6281	38	21	136	7

Table 10 The animal bones from R-MHF77/period summary

5.4.11.4 Post-medieval

A total of 0.208 kg, approximately 19 fragments, of poorly-preserved animal bone were recovered by hand-collection from R-MHF77. Fragment size was in the 25->75mm size range. The bulk of this material derived from adult ox-sized head fragments and sheep upper and lower limb. There were no measurable bones or mandibular tooththrows and only five epiphyses.

5.4.11.5 Assessment work outstanding

None.

5.4.12 Iron slag and related debris

By Lynne Keys

5.4.12.1 Introduction and methodology

Just over 3kg of material was examined for this assessment. All appears to have been recovered by hand; no micro slags from soil samples were presented for assessment and it is assumed none was taken. This assessment was undertaken with a view to determining the types of iron slags and other ironworking debris present and the processes they represent. On the basis of the information recommendations for further work are made.

The material was visually examined and categorised on the basis of morphology alone. Each category of slag in each context was individually weighed to 2g but in the case of the smithing hearth bottoms each was weighed and measured to obtain its dimensions. Additionally a magnet was run through the soil in bags to detect micro-slags such as hammerscale. Details of the assemblage are given in the table below which has been sorted first by area, then by context, and finally by identification. Area and contextual details were not always present or clear on labels, but any additional information has been recorded in the comments column of the table.

R-MHF77	Moor Hall Farm,					Rainham
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area	context	identification	wt.	len.	br.	dep.	comments
A	2	smithing hearth bottom	130	90	65	25	
A	100	fuel ash slag	18				sq. 060 030
A	100	undiagnostic	2				sq. 070 080
B	126	undiagnostic	28				
B	264	undiagnostic	26				grid 005 040
C	2	undiagnostic	30				1413L2
D	35	undiagnostic	132				D?35
D	371	smithing hearth bottom	196	90	75	35	
D	371	smithing hearth bottom	502	120	85	45	
D	371	undiagnostic	94				
D	371	vitrified hearth lining	32				
D	373	smithing hearth bottom	670	130	110	55	
D	400	fuel ash slag	160				grid 130 130
D	400	undiagnostic	30				
D	412	cinder	26				
D	412	undiagnostic	334				
D	412	vitrified hearth lining	24				
D	445	undiagnostic	50				
D	477	undiagnostic	48				
D	515	smithing hearth bottom	372	115	75	40	
D	517	undiagnostic	60				smithing slag
L	2	undiagnostic	78				L2 grid E1
		undiagnostic	26				grid 120 110 100
		total wt. = 3016g					

Table 11 Quantification table of the iron slag and related debris:

5.4.12.2 Explanation of terms and interpretation of the assemblage

Some types of iron slags are diagnostic of smelting or smithing, others are not. Slag may be described as undiagnostic because it could have been produced by either process. Slags may be broken up during deposition, redeposition or excavation and because of the uncertainty over their original morphology may have to be assigned to the undiagnostic category. Other types of debris encountered in iron slag assemblages may be the result of various kinds of high temperature activities - including domestic fires - and cannot be taken on their own to indicate ironworking was taking place. This includes such materials as fired clay, vitrified hearth lining, cinder, and fuel ash slags. However if they are found in association with iron slag - particularly diagnostic iron slag - they can be considered as possible products of the process which produced those slags.

The diagnostic slags in the assemblage are those produced by iron smithing: hot working by a smith using a hammer to turn a piece of iron into a utilitarian object or to repair an object. The most characteristic bulk slag of smithing is the smithing hearth bottom. Its plano-convex shape was formed as a result of high temperature reactions between the iron, iron-scale and silica from either a clay furnace lining or the silica flux used by the smith. The predominantly fayalitic (iron silicate) material produced dripped down into the hearth base during smithing forming smithing slag which, if not cleared out, developed into the smithing hearth bottom. When removed from the hearth they were usually taken outside and deposited in the nearest pit or ditch, or sometimes along an outside wall. The proximity of cut features or dumps with amounts of smithing hearth bottoms to a building is often a good indication the structure may have been a smithy.

At the present time only area D appears to be of any interest in that it produced all but one of the five smithing hearth bottoms. Two of came from context [371] and one each from [373] and [515] (both fills of ditch [10014]). None of these contexts is dated or allocated to a provisional period.

5.4.13 Conservation

by Liz Goodman MoL

5.4.13.1 Introduction/methodology

The following assessment of conservation needs for the accessioned and bulk finds from the excavations at Moor Hall Farm, Rainham, 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 excavation was provided by conservators working for Passmore Edwards Museum.

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.

	Material	No. accessioned	No. conserved	No. to be treated (see below)
Organics	Leather	2	2	
	Wood	2	1 in LBL gallery	
Metals	Copper alloy	35 (16 coins)	33 (14 coins) 2 in LBL gallery	1
	Iron	100		3
	Lead	6		

	Silver	2 (2 coins)	2 (2 coins)	
Inorganics	Ceramics	47	1 + 4 bulk in LBL gallery	4 + bulk pot
	Flint	32		
	Glass	12		
	Stone	39		

Table 12 Summary of conservation work

5.4.13.2 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.

Three iron objects were identified for further investigation to help identify them.

5.4.13.3 Preparation for deposition in the archive

The metal and inorganic objects, which make up most of the accessioned items, appear to be stable. The small finds from this site were packed to the Passmore Edwards standards of the late 1970's, these are now considered to be inadequate for deposition in the LAARC. All the material, including the bulk finds, needs to be re-packed according to current best practice. It is suggested that the Museum of London Standard's for archive preparation (Museum of London 1999) are used.

5.4.13.4 Remedial work outstanding

There is no remedial work outstanding.

6 Potential of the data

6.1 Realisation of the original research aims

The original research aims are defined in Section 3.

6.1.1 General

A complete assessment of this site would create a site archive that would realise **Research Aim 1** by contributing to an emerging research agenda for prehistoric and Romano-British activity in East London.

The assessment data to date contains no evidence for ritual or ceremonial activities and the site is unlikely to realise **Research Aim 5**.

The evidence for occupation on the site from the mid/late Iron Age, the Roman conquest period and from both the early and late Roman periods, together with associated ditches and field boundaries will realise **Research Aim 11**. The status of earlier occupation such as the possible late Bronze Age/early Iron Age hut, is less clear.

6.1.2 Ceramic and finds

The assessment of the complete prehistoric pottery assemblage will contribute to the realisation of **Research Aim 2**. Once the data-set is complete, it is likely that the material from this site will be able to contribute to **Research Aim 3**, especially for the Beaker fabrics and also some Middle Iron Age fabrics. However, as stated in the global assessment, it is unlikely that the small incremental changes in the relative proportions of temper will provide a chronology as prehistoric vessels were made by hand, and thus the fabric even in the same vessel, varies a great deal.

6.1.3 Paleolithic and Mesolithic

The site will not contribute to the realisation of **Research Aim 4**.

6.1.4 Bronze Age

Although 13 Beaker sherds (representing the largest selection of Beaker vessels from the East London Gravels project) were recovered and a possible late Bronze Age /early Iron Age hut has been identified in this assessment the dated evidence from this site for periods before the mid/late Iron Age is relatively sparse (though a full assessment of all the prehistoric pottery may alter this perspective). On the evidence assessed to date, the site does not contribute significantly to the realisation of **Research Aim 6** or **Research Aim 7**.

6.1.5 Late Iron Age – Roman transition

The changing morphology of the occupation of the site is most evident over this period. A settlement characterised by hut circles of mid/late Iron Age date is replaced, probably at about the time of the Roman conquest, by a triple-ditched enclosure. This falls out of use and is replaced by Roman period occupation and field boundaries. There is also a large assemblage of late/Iron Age and Roman pottery, particularly from the fill ([821]) of well/waterhole [10005].. The site will realise **Research Aim 8**.

6.1.6 Roman

The clear evidence for Roman field boundaries and the presence of a rectilinear structure to the west of the site combined with well dated evidence for occupation in the 4th century will enable the site to contribute to the realisation of **Research Aim 9**.

6.1.7 Medieval and post-medieval

The site will not contribute to the realisation of **Research Aim 10**.

6.2 General discussion of potential

6.2.1 Paleolithic/mesolithic

The site has no potential for these periods.

6.2.2 Neolithic

The site has little potential in its own right for this period, the evidence for which was confined to flint and flint debris which could date to this period from features [622] and [741]. These find spots might, however, have limited potential for analysis as outliers related to the adjacent site at Great Arnold's Field (R-126).

6.2.3 Late Neolithic/early Bronze Age (2500 – 1700 BC)

The 13 Beaker sherds from this site, although at least in part found in later contexts, represent the largest selection of Beaker vessels from the East London Gravels project and have significance as such. Any further analysis of the Beaker material should consider it in relation to the contemporary material at Great Arnold's Field (R-126).

6.2.4 Late Bronze Age/early Iron Age

The incidence of late Bronze Age/early Iron Age pottery suggests activity on the site in this period and a circular gully suggesting a hut of this date has been identified ([10012]). Following the completion of the pottery assessment, further analysis should seek to clarify the extent of any settlement of this date at this site.

6.2.5 mid/late Iron Age and the impact of the Roman conquest

There is evidence for a mid-late Iron Age settlement on the site, in the form of a number of circular gullies defining the position of huts. Analysis should focus on

refining the dating of this settlement and identifying any associated field boundaries in order to better understand the extent and morphology of the occupation and its chronological relationship with the triple-ditch enclosure. Pottery analysis should offer an opportunity for determining the character and economy of the settlement and examining it within the wider landscape. The triple-ditch enclosure itself is dated by its fills, which may, of course, pertain more to its disuse than use. However, the dating from a feature within it and apparently contemporary to it ([10005]) may contribute to this process. A very large Late Iron Age/early Roman assemblage from fill [821] (in [10005]) forms the only group examined during the assessment which is worth additional study.. Because of its sheer size, this group is certainly of regional importance and forms one of the largest deposits of pottery from this period in the region.

It is clear that analysis of the chronology of the site during this period offers considerable potential for examining the late Iron Age – Roman transition. This analysis would be complemented by a relatively varied assemblage of accessioned finds –a strong group of Iron Age loom weights and iron work, and late Iron Age/early Roman brooches. The assemblage has potential for analysis of site function and may also make a contribution to the refinement of the dating.

Analysis of the size of the large number of complete and partially complete Belgic bricks may provide crucial information as to their likely function, as may stratigraphic analysis of their distribution. There is potential for the site contributing to a detailed studies of ‘Belgic bricks’, and also fired clay weights, within the whole study area, to look for patterns of usage and further to assess function.

The botanical samples have the potential to provide information on economic activities at the site, the nature of the local habitat in the late Iron Age period, although a full understanding of this potential is to an extent dependant on all available dating having been undertaken.

6.2.6 *Early Roman (to AD 200)*

It is important to refine the dating evidence for the abandonment of the triple-ditch enclosure and for the imposition of Romano-British fields over the cleared area. Through doing this the site has potential to inform on the chronology and character of the agricultural exploitation of London’s hinterland. How quickly did this process take place? Was agricultural practice concerned with supplying London or local self sufficiency? In this context the presence of Roman objects, glass and jewellery and coins demonstrate that domestic and personal artefacts arrived at the site throughout the Roman period, and there is potential for studying the supply of artefacts to the site, in collaboration with pottery studies. However, it may be noteworthy that the partial pottery assessment data suggests that the pottery recorded was predominantly of Late Iron Age and early Roman in date with relatively little present that must be later than *c.* AD130. Only 4 of the 13 dated coins from the site are early Roman (if one includes one of Septimus Severus AD 193 – 211), 2 from each of the 1st and 2nd centuries.

6.2.7 *Later Roman (AD 200 – 400)*

After *c.* AD 130 there seems to have been a significant decline in the amount of pottery deposited on the site until second half of the 4th century, when the pattern of

supply seems to have altered and pottery deposition increases again. This may be part of a general trend on the northern (Essex) side of the Thames estuary. None of these later pot groups, however, is of sufficient quality to warrant further study using quantification by EVE. The incidence of coin loss also suggests increased activity on the site. Of the 13 dated coins, 7 post-date AD 330, one dates to AD 317 - 326 and one dates to AD 286 - 296. The coins have potential for refining the dating of the settlement and for the examination of economic factors/trade contacts in the wider area. The group of later Roman accessioned finds should also repay integration with stratigraphic archive.

Later Roman occupation appears to be focussed on a rectilinear building to the west of the site although the considerable numbers of ceramic roofing tile and brick and what may be late Roman stone roofing and stone paving indicates other Roman building activity somewhere in the area. The presence of a combed box-flue hints at the presence of a hypocausted structure. The clarification of the date and character of the late Roman occupation should be one priority of site analysis.

The botanical samples have the potential provide information on economic activities at the site. The charred cereal grains and chaff fragments may provide evidence on the range of cereals cultivated and used in this area as well as crop-processing activities that were taking place during the late Roman period. The weed seeds, mainly from pit fill [147] (probable late Roman, undated during assessment), may provide additional evidence on crop husbandry practices, for the example the range of soils cultivated in the area. It may also be possible to establish areas on the site where crop-processing activities were taking place. The wild plants preserved by waterlogging may allow a reconstruction of the nature of the local environment in the immediate vicinity of the sampled features. The identifiable charcoal from the Roman well fill [264] may provide information on the types of wood(s) used as fuel while the identification of the planks from the Roman well may also yield evidence on the range of wood(s) used for construction purposes.

6.2.8 Saxon, medieval and post-medieval

The site has no potential for these periods. However, if the possible Saxon sherd is confirmed as such it is of interest given the presence of other Saxon sites in the Rainham area such as Gerpin's Farm and Lessa Sports Ground (Evison 1955; O-Leary 1955; Blackmore in prep) and others to the east such as Mucking (Hamerow 1993).

6.2.9 Other potential

The moderately large but, at best only moderately and generally poorly, preserved animal bone assemblage has some limited potential for study of the use and disposal of the major domesticates ox, sheep, and pig in terms of carcass-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. A full appraisal of this albeit limited potential can only be made when the animal bone assemblage is

broken down by period after stratigraphic analysis. It is, however, likely on the basis of provisional periodisation that the bulk of the assemblage derives from the Roman period.

6.2.10 Aerial photography

There is considerable potential for the use of rectified/digitised aerial photographs in order to extend the datable landscape features at Moor Hall Farm into the surrounding landscape.

7 Significance of the data

7.1 Local

The site has local significance for a number of reasons

Even as an incomplete dataset, the pottery and flint from the site indicates activity over a range of periods from the Late Neolithic/Early Bronze Age through to the Middle Iron Age in the area.

The presence of large quantities of South Essex shell-tempered ware provides significant opportunity to examine this important local ceramic tradition in some depth. While other local ceramic traditions are also represented (i.e. those of grog temper and sand temper), the amounts of this material appear to be far less significant. The pottery from [821] is of critical importance here. It would seem that the settlement at Moor Hall Farm relied heavily on local suppliers throughout its existence, with non-local suppliers only managing to make an impact in the 4th century. While there is much scope for the study of the Late Iron Age/early Roman transition, the absence of large securely dated accumulations of pottery from later periods means that the possibilities for analysis are severely restricted. The potential here is for brief summary.

The large and varied accessioned finds assemblage affords an opportunity for determining the character and economy of the settlement and examining it within the wider landscape. The presence of fired clay weights and many complete and near complete Belgic bricks are of significance for a wider study of these artefacts.

The plant remains will provide data on arable agriculture in the area around the site, possibly crop-husbandry and processing activities and the range of cereals used in the late Roman period. It may also provide an insight into the nature of the local environment on the site and the immediate environs in both the late Iron Age and late Roman periods. 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.

7.2 Regional

The site has regional significance for a number of reasons.

The site contains a major triple-ditch enclosure within a relatively well defined sequence of strata covering occupation from the Late Bronze Age/Early Iron Age to the late Roman period.

There are few groups recorded elsewhere of the size and date of the large quantity of pottery recovered from well fill [821]. This group offers significant potential as the linchpin of cross-site analysis of the Late Iron/early Roman transition. There is much potential for the study of the wider study of the distribution and scope of South Essex

shell-tempered wares within the study area. There is also some scope to study trade with northern Kent, including the distribution of shell-tempered wares and Romanised grey and oxidised wares. For the late Roman period, Moor Hall Farm appears to exhibit similar trends to other sites where activity of this period is attested, in that imported regional wares from the main late Roman pottery industries form a very noticeable assemblage component. This needs to be examined in some detail, although the lack of large securely-dated deposits means that the scope is for brief summary only. The accessioned finds assemblage may also contribute to a study of the Iron Age/Roman transition in the region.

The charred plant remains from the late Roman samples are of significance because of the paucity of such remains from this area of the lower Thames Valley. Analysis of these samples should be compared with cereal remains from late Roman deposits in the City of London and from other recent assessments of archaeobotanical material from several sites in the area. The plant remains, however, are not of national significance. The animal bone assemblage has a limited potential for comparison with contemporary sites throughout the London area particularly in terms of carcase-part selection and age-at-slaughter.

7.3 Display

Because of its overall completeness, the pottery from [821] offers the only significant opportunity for public display. This could be presented as a significant episode in time, or even a special event, when the rarity of such large groups is taken into account. Furthermore, this group has certain educational potential. It could be used in a school pack as an example of how archaeologists work on key data, for example.

A timber-lined well (structure [265]) was excavated close to the rectilinear building. The timbers are generally sound, although they have some drying cracks, and toolmarks survive in a number of places as does sapwood. There is some potential for dendro-chronological dating of the timber. There is also the potential to reassemble the timbers for display (with some gap filling and light support) to form a structure c. 1.5m x 1.2m and 0.75m high. Alternatively the well could be reconstructed using the same materials, methods and tools as the original and scale models could also be made for children etc to assemble and reassemble, following a graphic guide, for a hands-on learning activity.

8 Appendices

Site code	Period	Fabric	Num of rows	Sum Sherds	Sherds as PC	Sum ENV	ENV as PC	Sum weight	Weight as PC	Sum EVEs	EVEs as PC	
R-MHF77	PM	CHPO	1	1	2.9	1	3.0	1	.4	.00	.0	
		CREA	3	3	8.8	3	9.1	5	1.8	.00	.0	
		ENGS	1	1	2.9	1	3.0	80	29.4	.00	.0	
		MISC	2	1	2.9	1	3.0	2	.7	.00	.0	
		PEAR	1	1	2.9	1	3.0	1	.4	.00	.0	
		PMR	2	2	5.9	2	6.1	76	27.9	.00	.0	
		REFW4	4	7	20.6	7	21.2	14	5.1	.00	.0	
		STBR1	1	1	2.9	1	3.0	17	6.3	.00	.0	
		SUND1	1	1	2.9	1	3.0	17	6.3	.00	.0	
		SWSG1	1	1	2.9	1	3.0	3	1.1	.00	.0	
		TPW 1	1	1	2.9	1	3.0	3	1.1	.00	.0	
		TPW12	2	3	8.8	3	9.1	11	4.0	.00	.0	
		TPW24	4	4	11.8	4	12.1	4	1.5	.00	.0	
		TPW33	3	4	11.8	4	12.1	34	12.5	.00	.0	
		YELL1	1	3	8.8	2	6.1	4	1.5	.00	.0	
		sum	28	34		33		272		.00		
	S	CHAF	1	1	100.0	1	100.0	30	100.0	.11	100.0	
		Sum	1	1		1		30		.11		

Table 13 R-MHF77 post-Roman pottery fabric analysis

Context	Sample	Bl	Period	Proc Vol	Sv Vol	Wet Mesh Size	Flot Flot	Any Vol	unprocessed	Comment
146	146	ED	12	10	10	1	Y	5	U	
147	147	P	12	20	10	1	Y	10	U	
170	170	P	12	10	10	1	Y	5	U	
264	264	W	12	5	10	1	Y	15	U	
405	405	SU	0	10	10	1	Y	50	U	WET FLOT
1112	1112	SU	10	10	10	1	Y	30	U	WET FLOT

Table 14 RMHF77botany processing details

						CHD	CHD	CHD	CHD	WLG	WLG	
	Samp		Proc	Flot		Grain	Chaf	Seeds	Wood	Seed	Wood	
Con	No	Bl	Vol.	Vol.	Proc	A D	A D	A D	A D	A D	A D	Comments
146	146	ED	10	5	F	1 1	3 1	2 1	1 1	2 1		C 50 GRAINS,>CHAFF,FEW WEED SEEDS
					W	2 1			1 1			
147	147	P	20	10	F	3 1	2 1	3 2		1 1		>GRAIN(100+)>TRI,>WEEDS;POOR PRESERV
					W	3 1			1 1			
170	170	P	10	5	F	1 1			2 1	3 2		>MODERN SEEDS
					W				2 1			
264	264	W	5	15	F	2 1	3 1	1 1	1 1	3 3	2 1	>WL SEEDS,WOOD;>CHAFF,SOME GRAIN
					W				1 1			
405	405	SU	10	50	F				2 1	3 3	3 1	>WOOD & NOS/RAN WEED SEEDS ESP ATR & JUN
1112	1112	SU	10	30	F	1 1			2 1	3 3	3 1	>WEED SEEDS ESP JUN,STE,URT &>WOOD;OC GN

Table 15 RMHF77 details of botanical remains by context

CONTEXT	SAMPLE	Process	Constituent	Abundance	Diversity	COMMENTS
146	146	F	CHD CHAFF	3	1	TRI GLUMES
		F	CHD GRAIN	1	1	TRIDI, TRI, ?TRIAE, INDET
		F	CHD SEEDS	2	1	BRO
		W	CHD GRAIN	2	1	POOR PRESERVATION; EMMER
147	147	F	CHD CHAFF	2	1	
		F	CHD GRAIN	3	1	MAINLY TRI, TRIDI, HOR, INDET
		F	CHD SEEDS	3	2	BRO, LOL, ANTCO, HYONI
		W	CHD GRAIN	3	1	EMMER, EMMER/SPELT, AVE/BRO
170	170	F	CHD GRAIN	1	1	HOR
264	264	F	CHD CHAFF	3	1	TRI GLUMES, HOR RACHIS
		F	CHD GRAIN	2	1	TRI
		F	CHD SEEDS	1	1	BRO
1112	1112	F	CHD GRAIN	1	1	OAT

Table 16 RMHF77 details of charred plant remains

Context	Sample	BI	Proc	Constituent	Abundance	Diversity	Comment
146	146	EDF		CHD CHAFF	3	1	TRI GLUMES
	146	EDF		CHD GRAIN	1	1	TRIDI,TRI,?TRIAE,INDET
	146	EDF		CHD SEEDS	2	1	BRO
	146	EDF		CHD WOOD	1	1	SM FRAGS
	146	EDF		WLG ROOTS	2	1	
	146	EDF		WLG SEEDS	2	1	ATRCHE,RUM,JUN
	146	EDW		CHD GRAIN	2	1	POOR PRESERVATION;EMMER
	146	EDW		CHD WOOD	1	1	
147	147	P F		CHD CHAFF	2	1	
	147	P F		CHD GRAIN	3	1	MAINLY
	147	P F		CHD SEEDS	3	2	BRO,LOL,ANTCO,HYONI
	147	P F		WLG SEEDS	1	1	CHE
	147	P W		CHD GRAIN	3	1	EMMER,EMMER/SPELT,AVE/BRO
	147	P W		CHD WOOD	1	1	
170	170	P F		CHD GRAIN	1	1	HOR
	170	P F		CHD WOOD	2	1	SMALL FGS (POSS ID'BLE)
	170	P F		WLG ROOTS	2	1	
	170	P F		WLG SEEDS	3	2	ATR,SOL,URTDI,CARCIR,RUB, ONFO,STEME,UR,T
	170	P W		CHD WOOD	2	1	
264	264	W F		CHD CHAFF	3	1	TRI GLUMES,HOR RACHIS
	264	W F		CHD GRAIN	2	1	TRI
	264	W F		CHD SEEDS	1	1	BRO
	264	W F		CHD WOOD	1	1	SMALL FRAGS
	264	W F		WLG MOSS	1	1	
	264	W F		WLG SEEDS	3	3	OEN,RUM,RAN,CHE,POLAV,JUN,UR,T,STE,MONFO,
	264	W F		WLG WOOD	2	1	
	264	W W		CHD WOOD	1	1	I-2 IDBLE FRAGS
405	405	SUF		CHD WOOD	2	1	
	405	SUF		INVBEETLES	2	1	
	405	SUF		WLG MOSS	1	1	
	405	SUF		WLG SEEDS	3	3	STE,PLAMA,CHE,C/C,>JUN,UR,T,RAN,RUB,RUM,P
	405	SUF		WLG WOOD	3	1	
1112	1112	SUF		CHD GRAIN	1	1	OAT
	1112	SUF		CHD WOOD	2	1	
	1112	SUF		INVBEETLES	3	1	
	1112	SUF		WLG MISC	1	1	BUDS
	1112	SUF		WLG MOSS	1	1	
	1112	SUF		WLG SEEDS	3	3	RUM,RUB,SOL,STE,A/C,C/C,U,RT,SON,POL,TOR,
	1112	SUF		WLG WOOD	3	1	

Table 17 RMHF77 details of biological remains by sample