

STRATFORD MARKET DEPOT

POST-EXCAVATION ASSESSMENT REPORT AND RESEARCH DESIGN

by

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List of abbreviations

The following abbreviations have been used for periods defined by spot-dating of the pottery.

PRE	Prehistoric (meaning before the late pre-Roman Iron Age)
LBA/EIA	Late Bronze Age / early Iron Age
MIA	Middle Iron Age
LPRIA	Late pre-Roman Iron Age
1st-2nd	Later 1st and 2nd centuries AD

Summary

1 Project background and introduction

1.1 Location, topography and geology (Figs 1, 2)

The Stratford Market Depot site lies in the Borough of Newham and the Parish of West Ham, east London; (NGF TQ 389835). The area of redevelopment covers 10.3 ha and forms a roughly rectangular shape bounded by Abbey Road to the south, Channelsea Road to the north, the North Woolwich railway line to the east and the Channelsea River (now piped underground) to the west.

At the time of the fieldwork the northern half of the site was occupied by the buildings of the former Stratford Wholesale Fruit and Vegetable Market and by disused railway yards. The Market buildings were demolished before the Phase II evaluations took place. The southern half had a central north-south access road (Abbey Lane/Back Lane) with disused factory buildings (previously Saul D. Harrison and Sons) and various retail/works buildings to the west, and scrapyards to the east. The south-east corner of the area contained the "Adam and Eve" public house and Tredegar Warehouse.

The Market Depot area is relatively low-lying, being at 3 to 3.4 m above Ordnance Datum at the southern end and rising to 4.5 to 5 m at the northern end.

The underlying geology consists of Thames Gravels capped over much of the site by an orange to grey-orange silty clay deposit, commonly referred to as brickearth, which is 0.3 to 0.6 m deep. Localised alluvium occurs in features which previously carried or contained water.

1.2 Circumstances of the project

The Oxford Archaeological Unit (OAU) undertook two phases of field evaluation and an open-area excavation (Figs 1,2) at Stratford Market Depot, London E15, on behalf of the Jubilee Line Extension team (JLE) from London Underground Limited (LUL). Fieldwork for the phase I evaluation was undertaken between September 1991 and January 1992; the phase II evaluation between November 1992 and January 1993; and the open-area excavations between March and April 1993, with an additional two week extension carried out in July 1993. The site is one of many being developed as part of the Jubilee Line Extension Project; in this particular case the area is to be occupied by a major depot with stabling yard, a very large maintenance building and a number of ancillary structures.

Archaeological work was felt to be necessary because the southern end of the depot site includes the known site of Stratford Langthorne Abbey, founded in 1134 for the Savignac order, and passing to the Cistercians in 1147 (see 1.3). Nothing now remains above ground of the Abbey buildings. The northern end of the site was perceived as having some potential in that it lies on the gravel floodplain beside the Channelsea River, which would have given access to the rivers Lea and Thames.

When the OAU became involved in the project in 1991, the chosen design placed the workshops to the north, with the Abbey site to the south covered by the new railway lines. The OAU then carried out an archaeological field evaluation (now referred to as the Phase I evaluation) based on the proposed design, from September 1991 to January 1992 (Fig. 2). This evaluation concerned both the northern and southern areas of the depot site. The results of the evaluation led the OAU to suggest that there was a prehistoric and Roman site in the northern area, and that the site occupied a substantial part of the proposed footprints for the main shed and some ancillary buildings (OAU February 1992).

During the course of the evaluation the decision was taken by JLE to divide the site into two halves for archaeological purposes. From 31/1/92 further archaeological work in the southern part of the site (including any evaluation trenches planned at that time but not yet excavated) became the responsibility of the Passmore Edwards Museum (now the Newham Museum Service) while the area north of the line remained the responsibility of the OAU. This division can be broadly envisaged as a division between the Abbey site and some of the industrial area, and the prehistoric/Roman site. Following the division of responsibility for the site, the Passmore Edwards Museum carried out some further evaluation work on the Abbey site, and a major excavation in the south-east corner of the site of part of the Abbey church, with associated cemeteries.

JLE then asked OAU to carry out a second evaluation (the Phase II Evaluation) using trenches located between proposed foundation pile lines - the intention behind this was not only that an overall fuller picture of the archaeology would be obtained, but that more precise definition of the archaeology would allow mitigation work (i.e. Phase III excavation) to be more specifically targeted.

After completion of the Phase II evaluation fieldwork, and the subsequent report (OAU February 1993) JLE agreed that excavation of part of the site, the drain-run area, could go ahead as the impact from the proposed development was unavoidable. This area was numbered as Trench 70 (Figs 1, 3). OAU were advised that impact from the rest of the construction work would be slight, and that no further excavation work was likely to be required. The project then proceeded into the post-excavation assessment stage once the construction work on the site had reached a stage where it was clear that no more fieldwork would take place.

1.2.1 Quantification

A total of 2,759 contexts were recorded, and can be broken down as follows:

Prehistoric and Roman site (north end of site)	1,696	(of which 501 were from the Trench 70 excavation)
Abbey, post-medieval and industrial evaluation (south end of site)	594	
Industrial excavation (Trenches 39, 32)	469	

The remaining principal documentation consists of 716 plan drawings, 245 section drawings and 3,600 photographs.

1.3 Archaeological background

Prior to the work under discussion here the prehistoric and Roman periods in the Stratford Market depot site were represented only by flint tools, a Bronze Age jet bead and some Roman pottery. These were all residual finds recovered in the 1983 excavation by the PEM (Fig.3; ERL 1990: 74). Outlying finds include a possible Bronze Age cemetery north-east of the depot site. Direct evidence aside, it can also be noted that the site lies close to the Channelsea River (which joins the Lea and therefore gives access to the Thames) and is on the Thames gravels. Gravel sites are normally characterised by light, fertile, easily-worked soils and are therefore attractive areas for early settlement. It is also significant that the Roman road from London to Colchester passes 0.4 km north of the site's northern boundary.

In the early medieval period (broadly, AD 500-1100) the main evidence is provided by Domesday Book, compiled in 1086, when the settlement of West Ham was evidently of some size. The unusually high number of nine mills is of particular interest. Abbey Mills, part of which may still lie in the south-west corner of the site was almost certainly one of the nine (VCH vi: 89-90).

The most important historical event came during the medieval period, when the Abbey of Stratford Langthorne was founded in 1134 for monks of the Savignac order, passing to the Cistercians in 1147. Nothing now remains above ground of the Abbey buildings, which are likely to have been both grand and extensive, and there is very little information as to the Abbey's late history, although it may have been briefly abandoned due to flooding in the 14th century (VCH ii: 131). In 1538 the Abbey was surrendered to the King. A document compiled at the time of the dissolution shows the Abbey's buildings and grounds being used for houses, orchards and gardens.

Most importantly for the purposes of this report, a recent attempt has been made to plot the approximate positions of some of the Abbey buildings (Watson 1989). This placed the Abbey church in its traditionally believed position beneath the Adam and Eve public house and running east to the 1983 PEM excavations where the excavated foundation trenches were interpreted as being part of the east end of the church, with surrounding burials. Working from this position, and using a 19th-century copy of earlier land leases, Watson gave suggested positions for a number of buildings and land-parcels (Ibid.). This is discussed further in Section 5.3.

Judging from the 18th- and 19th-century maps, nearly all of the Abbey buildings were demolished by the 18th century, but the area is of importance for the textile industry. Calico printing may have actually begun in West Ham in 1676 (VCH vi; 76-77) and although this was not necessarily on the depot site, the area between Abbey Mill and Stratford was later (in 1747) called the Calico Grounds (ibid.). In the early 18th century calico printing gave way to silk printing; a Mr J.Tucker's West Ham Abbey print works occupied much of the south-west corner of the Market depot site, as Figure 9 shows. Subsequent maps show that there was much alteration and rebuilding of the factory buildings as chemical works, stone works and rag works successively occupied the site.

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2 Introduction to the report

The principle of post-excavation assessment is set out in *Management of archaeological projects* (English Heritage 1991: 15-19, 32-3 (2nd Ed.)). This report sets out to fulfil the requirements of an assessment, namely, to allow decisions to be taken about the potential of the data and the nature of the future programme, but a more integrated approach is taken than that set out in MAP2. The most obvious manifestation of this is the integration of the project design (see below).

Firstly, the original aims of the project are set out below and are followed by the main section on excavation results in which the finds assessment results are discussed when relevant - this section is divided into three as the project falls clearly into three parts: the prehistoric and Roman evidence (the north end of the site); the evidence relating to Stratford Langthorne Abbey and its later history, and the evidence for the silk-printing works on the site. Sections 7-15 consist of the separate specialist assessments of the various classes of material.

Clearly the aims of the project need to be revised, both because the evaluation led to only very limited excavation, and because the assessment has now clarified the potential of the data - these revised aims form the first step of the project design. They are set out thematically, together with the proposed methods, Sections 16-17, and comments are also given for each class of material, Section 18. The task list (19) for carrying out the proposed aims then forms the final part of the project design.

3 Fieldwork aims and strategy

3.1 The Phase I evaluation

The original aims of the excavation were concerned with the Phase I evaluation, which was very much a design-driven exercise, i.e. trench positions and the depth at which excavation ceased were both dictated by the predicted impact of the depot construction work. In effect, this meant that trenches at the north end of the area (prehistoric and Roman excavation) were investigated to natural subsoil, while those at the south end were excavated to 2 m below ground level. A total of 32 trenches was excavated, with the aim of assessing the nature, location, extent and significance of surviving archaeological remains (OAU Feb. 1992: 6-9). To this end, all significant deposits were hand-excavated over the medieval and post-medieval areas, while a high percentage sample of features was excavated on the prehistoric and Roman site. At the southern (Abbey) end of the site, the principal aim of the evaluation was to gain information about Stratford Langthorne Abbey, and later deposits, particularly those after c. AD 1800, were normally removed by machine.

3.2 The Phase II evaluation

The intention of the Phase II evaluation was to better define the extent and density of the archaeological features forming the prehistoric and Roman site. Within the long narrow evaluation trenches a minimal amount of excavation of archaeological features was undertaken so as not to compromise the integrity of the site. It was possible to achieve the

limited aims of defining extent and density because ancient features could be readily identified from their surface appearance after the overburden was stripped (OAU Feb. 1993: 8-11).

3.3 Trench 70 excavation (prehistoric and Roman)

This was a rescue excavation carried out because the service run parallel to the proposed building would have destroyed virtually all of the archaeology in this area. Approximately 90% of all pits and postholes were half-sectioned, and selected features were fully excavated. A 50% sample of the linear features was taken. The broad aims of this excavation were to characterise the prehistoric and Roman activity and to determine its date range or ranges. A further aim was to increase the understanding of the spatial context of the animal and human burials found in Trench 24 during the evaluation.

3.4 Trench 39 excavation (silk-printing works)

It was clear that the proposed structure in the north half of the site would destroy part of the remains of the West Ham Abbey Print Works (see 1.3). Although it was in no way practical to excavate the entire threatened area, it was decided to excavate a sample measuring $20 \times 12 \text{ m}$. The sample was chosen with reference to the 1869 O.S. map which shows the then layout of the works, and the trench included part of a building, an open area, and some of the water management system (Fig. 9). Within this area, selected parts of the trench were excavated in single-context detail, and others recorded on multi-context plans.

The aims of this exercise were mainly to assess the preservation of the industrial archaeology (much of which will remain preserved under the new development), but also, in an experimental sense, to investigate what kind of detail can be gained from such small-scale work. Information was sought both on the construction and use of the works.

4 The prehistoric and Roman site - excavation results

4.1 Method of post-excavation assessment

The core information for the assessment was provided by plotting the spot dating onto the overall site plan (Fig. 3), and by initial analysis of the overall sequence, from subsoil up to the modern ground level. Features were also superficially analysed by shape and size (posthole, pit, ditch etc), but very little difference was found between feature fills so these were not used as an analytical tool.

Finds specialists were provided with background information and with outline dating. The results of their assessments were then examined against the model built up through the work described above, and their potential to enhance the model was assessed. In some cases further discussions took place between the Project Manager and the specialist to clarify requirements for further work.

4.2 Summary of the excavation results

This section describes the results of the evaluations and excavation. Selected information from the assessments of individual classes of materials is also discussed where relevant.

4.2.1 The vertical sequence (Figs 4, 5)

The great majority of the excavated ancient (i.e Roman or earlier) features were cut into the brickearth subsoil and were filled with a grey to orange-brown sandy/silt loam (varying to clay/loam). Above the features, and present across most of the site, was a sandy or silty loam, similar or identical to the fill of the features, and interpreted as a ploughsoil. The sequence in some parts of the site (e.g in the area of Trench 53) was more complicated in that several ploughsoils could be identified, and were sometimes cut by archaeological features - this is discussed further below (4.2.5). Cutting the ploughsoil were a number of wide linear features (Fig. 3), which were field ditches, possibly medieval in origin, but 18th-century or later in their final form (they had often been recut).

A thin layer of black humic silt lay above the ditch fills and covered most of the site -it predates the deep (c. 1.2 m) build-up of cinders, chalk, brick rubble etc which was laid down when the site was converted to railway yards in c. 1870.

4.2.2 The Channelsea river and other alluvial features (Fig. 3)

The present day Channelsea River is piped below ground and lies immediately south-west of the excavation area. In Trench 70 there were traces of a linear feature, 7259, which may have represented an earlier watercourse running north-west to south-east, perhaps a predecessor of the river itself; it had been much disturbed by 19th-century activity. The grey alluvial fill of this feature contained some prehistoric (PRE) pottery, and was cut by a Roman ditch 7502.

Other alluvial features, always with the same fill of grey or blue-grey clayey silt, were found in trenches 53, 56, 59A, 59B and 3. Although they appeared to be linear, it is not possible to trace them clearly across the site, and they may therefore represent discrete areas of still water rather than channels. The relationships between all these and other archaeological features is rarely clear, although one, 5933, cut through the ploughsoil layer, suggesting that some could be relatively late in date.

An exception to the above is the wide linear feature 4210, 4510, which has a mixture of alluvial and other fills, and contained late 1st- to 2nd-century pottery.

4.2.3 Activity before the late Bronze Age

The only evidence for Mesolithic activity comes from the flint assemblage, which is assessed in Section 10. All of this material, including microliths, a piercer, blade cores and blades, came from later contexts, as was the case with material dating possibly to the Neolithic or early Bronze Age. The latter consisted of scrapers, a retouched blade, an awl and a serrated flake.

4.2.4 Trenches 70 and 24 (late Bronze Age to Roman (Fig. 3)

These two trenches are covered first because a much greater percentage of the features was excavated than over the rest of the site. Themes developed in this section are then carried into the discussion of the rest of the evaluation trenches (4.3.3).

Only two features, a gully 7041 and a possible posthole 7266, could possibly be late Bronze Age or early Iron Age (LBA/EIA), although here, as with all the pottery dating, these are only *termini post quos*, and either feature could be later. Conversely, many features could only be dated as prehistoric (PRE), and some of these could have been LBA/EIA. Residual pottery dating to the LBA/EIA was recovered in sparse quantities from later contexts (Section 8), as was a small amount of Bronze Age flint material.

At the north end of Trench 70 was a cluster of small pits and/or postholes - it is difficult to be certain about function as this area had been heavily truncated by later activity. A few features were up to 0.28 m deep, but 0.1 to 0.15 m was more common; all of the features, where datable, are prehistoric (PRE). The possibility of a structure is suggested both by the broad north-east to south-west alignment formed by the features, and by the frequent recutting of some features, e.g. 7428, 7430, 7426, and 7476, 7480, 7460. No clear structure plan emerges, however, from synthetic analysis, and it is unclear whether the small group of features to the south (e.g. 7410, 7434) would have formed part of it.

Unfortunately, the dating evidence is too weak to demonstrate whether the possible structure described above provides a context for the perinatal infant inhumation, 7423, which was buried in a shallow circular pit. A dog burial, 7498 in pit 7499, lay just to the north-east. The fact that these burials are roughly aligned with the proposed structure could suggest that they are from the same period, but this could also be because a very long-lived alignment (e.g. a boundary) continued to be respected. Other burials in the area were an adult inhumation, 2439 and a horse burial 2437, both in trench 24. The inhumation was crouched, placed on its left side with the legs tightly flexed; judging from the half of the feature excavated, it was in an oval pit, while the horse burial was placed in a circular feature - in both cases the fit between the body and the cut seemed quite tight, although truncation of the features may have enhanced this impression.

This is a notable concentration of burials in spatial terms, but there is only a small amount of evidence as to their relative dating - the inhumations both contained prehistoric pottery (PRE), and the flexed adult burial is more likely to be Iron Age than Romano-British; the dog burial is undated, and the horse burial contained some RB pottery. The latter feature was also possibly cut by a feature 2435 whose upper fill contained a late Roman coin (AD 341-46). The human bone is assessed in Section 12, and the animal burials in Section 13.

The possible LBA/EIA gully, 7041, was cut by ditch, 7145, running NNE-SSW; the ditch was 0.5 m deep, with sloping sides at 45 degrees, and containing both MIA and LPRIA pottery. Some of this pottery was well down into the fill of the ditch, but it is not certain that it was an Iron Age feature, as Ditch 2428 (Trench 24) is probably the same feature, but contained RB pottery. What the ditch does illustrate is the NNE-SSW alignment which remains dominant until the 18th century. The alignment is at right angles to the river channel just north of the site (see above, 4.3.1), and presumably it was created in relation

to the channel.

Ditch 7145 was cut by a sub-oval pit, 7123, with a primary fill of charcoal and burnt flint with some animal bone, perhaps a cooking deposit. It contained MIA pottery. Further to the south was a dense intercutting sequence of small pits mainly dated as prehistoric or middle Iron Age. No clear pattern emerges, although, as with the group of features at the north end of the trench, some cuts may represent posts being replaced (e.g. 7208, 7206, 7200), suggesting that a structure was present. One of the latest features in this sequence was a large shallow pit, 7124, containing a second horse burial 7133; pottery from this feature spanned the range from EIA to RB. The horse skeleton is assessed in Section 13.

One further notable feature from Trench 70 was a ditch (7502) 1.5 m wide running NW-SE, and containing 1st- to 2nd-century pottery; it was straight-sided, with a primary fill of gravel, perhaps suggesting it was for drainage. A section through the fills of this ditch and into the layers above was chosen as the sample for geoarchaeological work (Fig. 10; Section 15). Higher total phosphate values in the ditch fills than in the superceding deposits probably reflects the proximity of human activity. Ditch 4197 in trench 41 contained prehistoric pottery, but is presumably part of the same feature. This ditch was unusual in that no other excavated feature shared this alignment, and also because it is one of only a handful of features from Trenches 70 and 24 which are dated to the Roman period.

4.2.5 Phase I and II evaluation trenches (Fig. 3)

Figure 3 makes it immediately apparent that there is a change in the pattern of activity towards the south-eastern limit of the site - here there are some ditches but generally far fewer features, and it is possible that this marks either the edge of the main focus of settlement, or the edge of one area of settlement within a much larger site. Notably, Trench 2 which lies further to the south-east (Figure 2) produced very little, so that there was no sign of a secondary focus in this direction at least.

On the evidence of the very limited excavation carried out in the rest of the evaluation trenches, there were relatively few features dating to the prehistoric period. A narrow gully 4926 and an undefined feature 4940, were only dated by finds from cleaning, but two intercutting ditches (5706A cuts 5710A) were partially excavated. Ditch 5706A aligns with 3015 and 3022, again showing the dominant alignment continuing across the site. Only one other ditch, 6611, could be prehistoric (from excavated evidence), and it is also the only broad (c. 3 m) ditch which could be pre-Roman. No possible prehistoric structures were identified.

For the Roman period, the spot-dating of the pottery allows a breakdown into late 1st to 2nd, and 3rd to 4th centuries. There is no obvious spatial shift on the site between the two periods (see Figure 3). In the late 1st to 2nd centuries ditch alignments remain the same as identified for the prehistoric period, but a number of broader ditches are present (5756, 3110, 4819/5211). This may include the very wide feature 4210, 4510 (see also 4.2.1) but there is no sign that it continued to the north-west or south-east, and may therefore have been a discrete feature, such as a pond.

No features were excavated and dated to the Roman period which could be definitely

classified as pits. It remains possible, however, that such features were present, as there were a number of unexcavated amorphous shapes (e.g. 4333) which could have consisted of one or more pits. It was notable for the whole site that no possible grain storage pits were found, and this is commonly the case on floodplain sites.

Trench 53 contained a single burial, which could not be dated. The skeleton was poorly preserved, but was possibly that of an adult male (Section 12). It was buried in a flexed position within a sub-rectangular cut.

The 3rd- to 4th-century period appears to be generally less well represented on Figure 3, and this impression is backed up by the quantities of pottery recovered. On the basis of the pottery, Going (Section 7) suggests that 3rd- to 4th-century material on the site was accumulating in agricultural contexts. This may well largely be the case, but one possible structure was found in Trench 53. The terminal of a gully 5363 was excavated and shown to have contained a line of posts. These were the best-preserved postholes found on the site, surviving to a depth of 0.5 m. The problem here is that there was a relatively large amount of later Roman pottery from this area, particularly from the ploughsoils (see also 4.3., and it is therefore possible that the postholes are earlier and that the pottery was ploughed into them at a later date.

4.2.6 Ploughsoils (Fig. 5)

At least one soil layer was present across most of the site, immediately above the natural subsoil and normally covering the archaeological features. In some areas however, there were two or even three discernable strata, and an example of this from Trench 53 is illustrated in Figure 5. Here, as elsewhere (e.g Trench 30), it was noticeable that no pottery from later than the Roman period was found in the lower ploughsoils. Furthermore, much of the later or potentially later Roman pottery is from the ploughsoils rather than from the features below. In the case of layer 5318, in Trench 53, a number of fine strata were visible within the plough layer, but it was not clear whether this was a natural or artificial phenomenon.

In Trench 30, two ploughsoil layers were recorded, the lower, 3008, producing only Roman pottery (2nd- to 4th-century), and two Roman coins of the 4th century AD. The upper layer, 3002=3005, also contained Roman pottery, but together with a single sherd of medieval material and considerable quantities of later wares. The latest type present has a date range from 1837-1901. This evidence is typical in showing very little evidence of any medieval activity over this area of the site - it is of course possible that the regular drainage ditches running across the site had their origin in the medieval period, but this was not demonstrable from the excavated evidence. Sections across these ditches (e.g. Figure 4) show the upper ploughsoil extending part of the way down into the ditch, suggesting that the ditches remained open into the 19th-century, but were partly silted up by that time.

The geoarchaeological work undertaken for the assessment does not shed much light on the nature of the ploughsoils although 7004 had a lower total phosphate value than the ditch fills 7233 and 7245 below it, and there was some evidence, as might be expected, of stratigraphic mixing (Section 15). The significance of these results may become clearer when micromorphological analysis has been carried out.

4.3 Comment on the results

Before giving the revised research aims, it is necessary to note a number of factors which qualify the potential of the evidence. These are as follows:

4.3.1 Truncation

It was rare for a prehistoric or Roman feature to be more than 0.5 m deep, and most were much shallower. In the case of the burials, the skeletons sometimes protruded above the level of the subsoil surface and had been damaged as a result. A long history of ploughing, probably beginning in the late Roman period (see 4.2.6) has therefore clearly caused a great deal of truncation. It is likely that some features which were shallow in their original form have disappeared completely.

4.3.2 Redeposition

The ploughing discussed above, and the intercutting of features, has led to much pottery being redeposited in later contexts. This high degree of residuality adds to the problems of dating archaeological features on the site. It follows that other classes of find which are less readily datable, such as animal bone, will also have been frequently redeposited.

4.3.3 Clarity of site layout

The clarity of the site layout is generally poor, in that there is frequent and dense intercutting of features, such as those at the south end of Trench 70, which cannot be clearly disentangled into phases. The problem is exacerbated over the evaluation area, both because probable groups of densely intercutting features were not investigated in detail, and because the narrow Phase II trenches do not reveal sufficient of the pattern for it to be defined or understood.

In spite of the problems outlined above, some general tentative conclusions about the site layout could be made, and these are contained in Section 4.2.

4.3.4 The excavated sample

There was considerable variation in the amount of excavation carried out, due to the differing methodologies employed for each phase of the work - these are set out in Section 4.1. The very small sample of features excavated in some Phase I and all Phase II evaluation trenches is likely to have caused some bias in the results - for example, further excavation might have increased the number of features datable to the prehistoric period in the evaluation trenches. However, the conclusion drawn in Section 4.2.4 that there was little Roman activity in the Trench 70 area, is the result of a reasonable excavation sample, and would probably not be substantially altered by further work.

5 The Stratford Langthorne Abbey site - excavation results

5.1 Method of PX Assessment

The core information for the assessment was generated by integrating the pottery spot-dating with the Harris matrices for each trench, and then by examining the spatial distribution of medieval and post-medieval contexts. Particular attention was paid to possible elements of the Abbey, such as walls, surfaces and burials. Information from the specialist assessment of individual classes of material was then compared with, and where possible, integrated with, the overall picture which had been built up.

5.2 Summary of the excavation results

5.2.1 Medieval (Stratford Langthorne Abbey) (Figs 6, 7)

No contexts were found which could be definitely dated to before the foundation of the Abbey in AD 1134. Five sherds of early medieval pottery (dated AD 900-1050) occurred in later layers, from Trenches 21, 23, and 25.

All of the information relating to the Abbey came from the Phase I evaluation, with medieval or possible medieval contexts being encountered in Trenches 13, 14, 19, 21, 22, 23, 25, 33, 36. The actual quantity of medieval pottery recovered was low, with only 9 contexts containing exclusively medieval material (Section 8). The best preserved evidence consisted of two parallel north-south walls 5008, 5000 in Trench 22, the former being a short stretch of chalk-built wall, the relationship of which to 5000 was not clear. Wall 5000 was 1 m wide, and returned eastwards (2285) to form a corner; it was made of flint, chalk and green sandstone, and may have been partially robbed, but the external buttress at the corner showed high-class workmanship, and was cleanly-faced with green sandstone blocks. Heavily-robbed walling of similar character were found in trenches 33 (to the east and aligned with wall 5000) and 36 (to the north-east). The character of these walls, particularly 5000, strongly suggests that they were part of the medieval Abbey complex, as does their location, close to the known position of the main Abbey Buildings. However, due to the limited depth of excavation, no definite medieval deposits were excavated in association with them. A series of undated silt layers (e.g. 5001 - 5006, Fig. 7), perhaps suggesting temporary abandonment, were stratigraphically the lowest deposits encountered.

A further short length of heavily-robbed wall, of similar character to those described above, was found in the southern half of Trench 25, just north-east of the Adam and Eve public house. It lay above a deposit of disturbed subsoil, suggesting that it may have been the primary construction on this part of the site. The only pottery recovered from associated deposits (1 sherd) was medieval but this is hardly conclusive, and the nature of the deposits suggests destruction layers rather than habitation. In the north half of Trench 25, a series of clayey silt layers contained 7 sherds of medieval pottery (all dated AD 1080 - 1350).

Moving to the area west of Abbey Lane, Trench 21 contained an intercutting sequence of at least seven very badly-preserved inhumations - only a small fraction of the bone remained, and this was left *in situ*. The lowest grave in the sequence was cut into a rubble layer, $\sim 10^{-1}$ indicating possible clearance or dumping before the area was used as a cemetery. The

burials are thought to be medieval although there was no associated pottery, because the first pottery higher up the sequence is 16th-century, on balance, a cemetery is more likely to have belonged to the pre-dissolution Abbey.

Two further inhumations, this time substantially complete, were found in Trench 13. they were orientated east-west, probably cut into silty loam just above the subsoil, and were recorded in situ before being reburied. Again, it seems likely that these were medieval in the burials relating to the Abbey, but only 4 sherds of pottery (all pre-AD 1300) were recovered from the whole trench.

Possible medieval deposits were observed in Trenches 14 and 19, the former possible structural evidence in the shape of a compacted chalk surface overlaid by rubble, but not securely dated. In Trench 19 deposits containing very small quantities of medieval pottery 7 consisted of a large irregular feature, filled with silt, and with further silt layers above. The pottery from the upper silt layers dated from AD 1270 - 1350.

The last class of evidence to be mentioned concerns medieval pottery which was residual in later contexts. This was found in Trenches 12, 15, 23 and 37 (Fig. 3).

5.2.2 Post-dissolution (c. 1550 - c. 1800)

This phase is dated by pottery types with a date range of either 1550 - 1750 or 1600 - 1800. Closer dating within this range is rarely possible.

The most common deposits in this phase consist of deep (up to at least 2 m) sequences of rubble layers with a high proportion of mortar. They were found overlying the stubs of the medieval walls in Trenches 22, 33, 36, 25, and were also observed in Trenches 23, 34, 13, 14, 19. Although the pottery dating is not precise, the majority of these rubble layers are likely to be from the dissolution period or shortly after, when parts of the Abbey complex would have been heavily robbed for building materials. The deepest sequence found, in Trench 23, sloped NE to SW, suggesting that there was a building somewhere to the NE. In some trenches pits of unknown function were dug either into the rubble (Trenches 33, 36) or, in the case of Trench 21, into the presumed medieval burials.

Only two structures belong to this phase, one being built over the sequence of destruction rubbles in Trench 22. A narrow north-south wall 2233 (not illustrated) was constructed of chalk, green sandstone and occasional brick. The presence of further rubble layers over this wall, again dating from 1600 - 1800, show that it did not survive into the next phase. In Trench 21, a very roughly-built wall 2115 (not illustrated) of chalk, green sandstone and flint was built over the infilled pits mentioned above. The wall ran east-west, and returned to the south.

The last pieces of evidence worthy of note concern finds, beginning with the discovery of two complete horse skeletons in the fills of a ditch in Trench 12, close to the present line of the Channelsea River. The pottery suggests that the ditch fills are 17th-century, though they could be slightly later. The skeletons are assessed in Section 13. The other find of intrinsic interest was a number of pottery vessels, known as receivers, found in Trench 22. These

vessels would have been used in a distilling process.

5.2.3 c. 1760 to modern

The most common date range of pottery used to define this phase was 1760 - 1900, with some wares being more closely datable (e.g. 1800-62; 1837-1901).

The evaluation strategy, where archaeology relating to Stratford Langthorne Abbey was the main priority, means that deposits belonging to this phase were normally machine-excavated and are not therefore well understood. A reasonable sequence was excavated in Trench 22, however, where the first brick walls seem to occur at the beginning of the phase, in the late 18th or early 19th century. Otherwise most trenches showed two or more phases of brick walls with associated floors and drains, though an exception was Trench 13, which seems to have remained in an open area since it was used for burial in the medieval period.

One context, the fill of a wall foundation trench (No. 1800) in Trench 18 contained a notable collection of pottery from the first half of the 19th century. Some of the pottery is stamped with the name of J. Tucker, a firm which had silk-printing premises on the site (see also Sections 1.3; 6).

5.3 Discussion - potential of the evidence

5.3.1 Medieval and post-dissolution

The potential of the evidence relating directly to Stratford Langthorne Abbey would be severely limited if the OAU evaluation results are treated in isolation. The probable and possible medieval walls which were identified cannot, as yet, be interpreted but it may be that the results of excavations by the Newham Museum Service (NMS) will allow this to be done. The walls, therefore, <u>may</u> have the potential to aid our understanding of plan of the Abbey complex. A key point here is whether the claustral complex lay north or south of the Abbey church - historical research by Watson (1989) led him to conclude that it lay to the north, but this was already in doubt when the first evaluation was carried out (OAU Feb. 1992: 17). It is understood that the recent NMS excavations suggest the cloister lay to the south (MacGowan: pers. comm.) and in this case a number of the walls discovered by OAU (e.g. see Fig. 6) could form part of the cloister, assuming the Abbey church to lie partly under the Adam and Eve public house (Fig. 2).

Further information on the layout of the Abbey complex may become available when the positions of the burials found in the evaluation (Trenches 13, 21) are compared with the overall picture from evaluations, excavations and documentary research. One possibility is that they could relate to a church which lay away from the main complex, and was mentioned in 16th-century documents as 'the Little Parish Church'. It is possible that this church was a pre-Abbey foundation (Watson 1989).

A number of points can be made from the numerous deposits of building rubble found, and dating to the post-dissolution period. Firstly, the spatial distribution of rubble layers confirms the position of the main Abbey complex, on the east side of Abbey Road. This suggests that the possible medieval surfaces in Trench 14, on the west side of the road, relate

to an outlying structure - arguments given above about the 'Little Parish Church' may again be relevant here. The existence of rubble dating to the dissolution period lying directly over the medieval walls, particularly evident in Trench 22, seems to indicate that the buildings in this area were pulled down and robbed soon after the Abbey was dissolved. The implication is that these were not buildings which could be readily pressed into secular use, such as guesthouses, or blocks containing the dormitories.

Lastly, both the rubble deposits, and structures dating to the period 1600 - 1800 (Trenches 21, 22) are of use in the general elucidation of the post-dissolution history of the Abbey site. However, it is likely that the NMS excavations of 1983 and 1994, will have produced similar but more extensive evidence from directly above better-understood parts of the Abbey. It is against this that the evaluation data must be compared for its true worth to be known.

5.3.2 1760 to modern

The potential of the evidence from this period is limited, both because of the small sample obtained from the evaluation, and the fact that the evaluation strategy was heavily biased towards gaining information about the Abbey. The several phases of brick walls with associated floors, drains etc are clearly the physical evidence of the gradual industrial development of the site, which can be traced through study of the historic map evidence. Comparison of these two classes of evidence may yield some points of interest, and could certainly contribute to a brief outline account of the later history of the site, but more detailed analysis is unlikely to be worthwhile.

6 Excavation of the silk-printing works (Trench 39) (Figs 8, 9)

6.1 Method of PX Assessment

The pottery spot-dating was integrated with the Harris matrix for the excavation, but in fact added little to the sequence - the short account given below is therefore based almost entirely on the analysis of the stratification. Reference is made to the historic map evidence, particularly the edition of 1869, which appears as Figure 9.

6.2 Summary of the excavation results

6.2.1 Trench 39

The earliest phase of industrial activity was represented by a wood-lined channel 6770 observed in the northern part of the site. This ran north-south, and then turned towards the south-east; pottery from this phase dates to the range 1780-1900. The wooden channel went out of use, and the site was levelled by the deposition of extensive layers clay, which contained pottery dated to the period 1800-1900. Two east-west tile drains 6820, 6831 (not illustrated) were laid within the clay.

Following on from the above, the main structures found on the site were built: a brick-lined reservoir, a circular sluice, and part of a brick-walled building with a stone floor. All of these elements can be discerned on the 1869 map (Fig. 9). construction of the reservoir

TES

began with the digging of a vertical-sided construction cut, 6811, which extended across the entire western side of the trench. The face of the cut was lined with clay, and a structure of timber 6817 was built against it using vertical posts, horizontal planks and a series of horizontal tie-beams buried into the clay behind the cut. The next stage was the filling of the wood structure with gravel against which the brick walls of the reservoir (3902) and the sluice (3930) were constructed. It is possible that the wood structure formed a reservoir structure in itself, but more likely that it was part of the elaborate foundations for the brick-built reservoir. The wood revetment and gravel fill probably reflect the concern of the engineers to prevent the reservoir walls from being cracked by the considerable outward force of the water when the reservoir was filled. Pottery associated with the construction of the reservoir was dated to the range 1837-1900.

Stratigraphically at the same time as the reservoir construction a rectangular brick building was erected - the east end of the building lay in the south-west corner of the trench. The stone floor, 3908, of the structure used both limestone and granite cobbles some of which were socketed, perhaps for machinery or partitions. At least one stone was socketed on the underside, and must have been re-used from a previous phase. Outside the building was a surface of beaten ash (3935) which ran up to the reservoir and sluice, and appeared to be contemporary with the use of all these structures.

At a later stage, though the associated pottery is again dated to the range 1837-1900 the area north of the building saw some alteration. A timber-lined pit 3952 was dug through the ash surface. It was later re-cut (3889) and again timber-lined before being finally filled in and having a tiled floor laid over the top. All but a few of the tiles had been robbed, but the mortar bedding 6757 survives. In the same phase as this floor was a small square brick structure 3996, perhaps a furnace.

Demolition of the building and infilling of the reservoir were succeeded by a series of rubble layers which provided the foundations for a large warehouse, which was not demolished until 1992. This structure appears on the OS map of 1897 (not illustrated), where it appears to form part of the Victoria Stone Works.

6.2.2 Trench 32 (Fig. 8)

This evaluation trench showed a sequence of industrial archaeology which was some 2.7 m deep. All of the pottery from the sequence dated to either 1760-1900, or 1800-1900. Alluvial deposits (5133, 5134, 3222) were identified at the bottom of a pipe trench. These were overlain by a series of silty clays, which were below a sequence of four floor surfaces (3227, 3225, 3208, 3207), of which one (3208) appeared to be cobbled. These surfaces were cut by a north-south rectangular structure (3291), 1.2 m in width with a flagstone base. This may well be the below-ground continuation of the water channel shown on the 1869 map (Fig. 8). Two slabbed floor surfaces (3264, 5101) were stratigraphically above 3291; the latter incorporated three grooved sandstone blocks which occurred at even spacings (0.5 m apart). A further two floor surfaces (5106, 5104) were found above this feature, below layers of hardcore, underneath the present concrete ground surface.

6.3 Discussion - potential of the evidence

6.3.1 Excavation data

The results of the excavation were, on the whole, disappointing. Firstly, the quantities of pottery recovered were very low (c. 60 sherds from both trenches) and do not provide any clear dating for the relative sequence offered by the stratigraphy. Secondly, while activity earlier than the main phase has been demonstrated, it consisted only of a wood-lined channel (Trench 39) and several floor levels (Trench 32) and has little interpretative value. As regards the main features of the excavation, namely, the reservoir, building, sluice and channel (the latter from Trench 32) some good detail was obtained about the construction of the reservoir. Otherwise, however, there is little information about how the different areas were used, or what different features were actually for. The general conclusion is that the excavation adds some flesh to the known historical outline (see below) by showing the physical reality of features known from maps, but the excavation data does not have the potential to go beyond this.

6.3.2 Documentary and other evidence

It is important to consider whether documentary evidence may be able to improve the potential of the excavated data (Egan undated: 2; Society for Post-medieval Archaeology 1988: 2). The historic map evidence has already been mentioned and it has already been demonstrated that this, together with the Victoria County History volumes, could be used to construct a useful outline account of the history of the works, and of calico and silk-printing in the area (OAU February 1993A: 1-2). A search for more detailed evidence has not, however, been successful. Both the Victoria and Albert Museum and the silk Museum (Macclesfield) were contacted but neither has any collections or specific material on the works - references suggested by the museum curators (e.g Clayton and Oakes 1954; King 1955) add only background detail. The only known related material is thus the printing blocks (of wood and metal) which were formerly in the Passmore Edwards Museum and are now held by the Newham Museum Service (VCH ii: 407, Pat Wilkinson: pers comm). These blocks are thought to have come from the silk-printing works (Ibid.)

7. Assessment of the Prehistoric and Romano-British pottery, by C J Going

7.1 Introduction

The pre-medieval pottery from the Oxfordshire Archaeological Unit's Phase I and Phase II evaluations was extracted from the main ceramic assemblage and examined by rapid scan, as part of the pottery assessment programme. The extracted material was recorded by basic quantity (sherd count or a brief estimate of quantity, either actual sherd numbers, or an estimate: VSQ = <10 sherds, SQ=10-20 sherds, and Q, usually for contexts containing more than 20 sherds), the date of the latest pottery from the context, the fabrics present, and its general condition (see Table 7.1). Individual sherds or vessels of intrinsic interest were also noted. These data were entered on a paper archive. A minimum of 1537 sherds were observed, including a minimum of 443 prehistoric sherds.

7.2 Observations on the assemblage

The general condition of the pre-medieval material was extremely poor: soil conditions were inimical to the survival of the surfaces of all but pre modern, highly fired vessels, and the material itself was on no occasion fresh. More than 90% of the over 300 contexts spot-dated contained material which could be classified as 'abraded' or 'extremely abraded'. There was also comparative little material in absolute terms: of a sample of some 100 contexts only 5% contained more than 30 sherds (see table of contexts). It is therefore stressed that the pottery dates which have been given are treated as *terminii post quos*, and that these may well predate the actual context date by a considerable margin. In the worst cases this may amount to centuries rather than decades.

If we use the generally accepted criteria of assemblage size [approx 5 Kgs of material], or restricted date range [datable to within c 25 years], no single context merited detailed quantification

7.3 The Prehistoric material

The scanned prehistoric pottery was datable for the most part to the LBA-EIA periods. The most comonly encountered prehistoric ceramics were characteristic flint-tempered products, although there were some finer fabrics datable to the early-Middle Iron age. This high proportion of flint-tempered sherds is entirely characteristic of pottery assemblages of the LBA-EIA periods (Brown 1991, 27; 1992). By the middle Iron Age the proportion of flint-tempered wares to other fabrics had declined substantially, as a variety of sand and vegetable tempered fabrics gained a greater proportion of the regions' assemblages (Brown 1991, Drury 1978).

In terms of vessel forms noted, the pottery was entirely consonant with other assemblages from the region. Where the pottery was sufficiently preserved for nuances of form to be discerned, vessels were predominantly slack-profiled, weakly necked closed forms with flat-topped (eg 7134), everted rounded, and occasionally thumbed, rims (eg 7189, 7442). Where surfaces survived vessels were usually slightly smoothed.

The bulk of the prehistoric material was residual in Roman or later contexts, but there was a definite concentration of contexts and features containing only prehistoric material in trenches 71, 72, 73 and 74 (for details see the context date table). This is the area from which most of the observed later pre-Roman iron age material came, and which, incidentally, also produced the putatively prehistoric horse burials (7133). Their precise dating is uncertain, however as few of these contexts produced more than a very small quantity of material.

Aside from the obvious parallels with the material recovered from the Stratford Langthorne Abbey/Stratford Market depot (Greenwood and Maloney 1993, 83); the prehistoric material bears close comparison to published data from sites further to the east (Wilkinson 1988) and the enormous but unpublished assemblage excavated during the Mucking excavations (Clarke 1994; Brown in prep). Other material of comparable date has been found in a number of recent excavations close to Stratford (ie at Barking, Hackney, Hornchurch, Newham, and Redbridge). LBA/EIA material was found at Fort Street, Silvertown [Newham: TQ 4077 8020] (Greenwood and Maloney 1995, 346) and also at Scott and Albyns Farm, Hornchurch (Havering), at Hunts Hill, Aveley Road, Upminster (Havering; TQ 566 831: Greenwood & Maloney 1994, 205; 1995, 345), where much EIA material was also found at a probable settlement site. A further prehistoric assemblage, this time of middle Iron Age material was at an occupation site uncovered during work at Maybank Avenue, Elm Park, found Hornchurch (Havering: TQ 533 851: Greenwood and Maloney 1993, 78; 1994). The material from the OAU excavations, therefore, does not lack for good local contemporary parallels, and these are likely to be rather better-preserved than the battered material under review here.

7.4 The later pre-Roman Iron Age and Romano-British pottery.

7.4.1 The later pre-Roman Iron Age

LPRIA material was not particularly common on the site, but it was noted at a number of places. From 6604 came a possible pre-conquest storage-jar rim, and there were traces of another in 6620. While most of the material from Trenches 71-4 predates the later pre-Roman Iron Age, wheel-thrown, but probably pre-conquest pottery came from a number of contexts in Trench 71, eg 7132, which contained the rim of a probable pedestal jar, and 7189. Trench 72 also produced similar material (eg from 7280), including a fragment of a possible second pedestalled jar in a grog-tempered fabric (from 7235), and a butt-beaker rim in a fine white fabric from 7221, which is probably an import from Gaul. Some possible conquest-period shell-tempered material came from 7281, while a rim of a neckless jar in the same fabric - a characteristic form of the pre-Boudican period, came from 5021.

7.4.2 The Roman pottery

The Roman assemblage was scanned in the normal manner and the following fabrics were noted (codes in **bold** are the abbreviations as adopted for its annual Bibliography by the *Roman Pottery Study Group* and published in its Volume 3 (1990, 126-8):

ASS (Dressel 20), BB1 (Black Burnished 1), BLG (Belgic wares), BTB (Butt beaker fabric), ETS (East Gaulish Samian); CTS(Central Gaulish Samian); GRY (Misc Grey wares), HAR (Hadham reduced ware), HAX (Hadham red wares), NVC (Nene valley colour coats), OXM (Oxfordshire white ware), OWC (Oxon white-slipped red ware), ORC (Oxfordshire red wares), OSD (Misc Oxidised wares), RHN (Rhenish ware, SHG (Early shell tempered ware), STOR(Misc storage jar fabrics), VRW (Verulamium Region ware), WCS (Misc cream slipped buff wares).

The principal importance of the Romano-British assemblage is primarily as dating evidence for the strata excavated as part of the OAU evaluations. Its value as a guide to the ceramic supply to the region in the Roman era or the status of the site during the period is, frankly, limited. In terms of forms and fabrics noted, the assemblage is entirely characteristic of the region, with a large component comprising coarse reduced wares (gry), which probably originated in nearby (but for the most part unlocated) kiln sites. Wares traded from a distance fall into two categories - material from the Continent, and material from regional insular sources. Of the former the most common was Samian. There were a few sherds of south Gaulish Samian (eg from 5021, 2425 - a chip from an f27, and 7025), but here, as elsewhere it was particularly products of the Central and to a lesser extent East Gaulish industries which were met with (eg 2423, which produced the only decorated sherd of Samian noted: an f 37 bowl, probably from the Cinnamus workshop). There were some wares from other sources such as the Rhineland, and also Spain in the form of a few sherds of Spanish olive oil amphorae -the ubiquitous Dressel 20 from the Guadalquivir region of southern Spain (from contexts 5021, and 6407, which produced a handle possibly used as a pestle). No sherds from wine amphoras were noted.

British regional products (apart from the local material referred to above) included some wares from the St Albans region, and some sherds from the Black-Burnished kiln production site in the Poole Harbour/Isle of Purbeck area of Dorset (context **5319**). Table and specialist wares are evidenced by products from the Oxfordshire potteries (oxidised and white-slipped oxidised wares and white-ware *mortaria*), the Nene valley (colour-coated table wares, usually beakers and bowls and dishes), and the Hadham region of east Hertfordshire, itself a supplier of fine wares from the later 3rd century onwards. Some grey wares found on the site appear to be from this source.

The date span of the material suggests that the late pre-Roman Iron Age and Roman activity on the site falls (at least as evidenced by the ceramics) principally into the end of the first and, in particular, the second centuries AD. There is a substantial fall-off in material of the later Roman period, and it is suggested that the 3rd-4th century pottery which was noted on the site represents accumulations of material in agricultural contexts. The density of the finds is not really sufficient to suggest nearby occupation activity, however.

7.5 Conclusions and recommendations

Despite the comparatively large number of sherds of prehistoric pottery found during the works at Stratford the importance of the prehistoric assemblage is diminished by its generally poor state of preservation, abraded condition and high residuality save in one possible area of the excavation. The assemblage thus merits little additional study save in relation to the data from the other sites.

Similar remarks may also be applied to the later pre Roman Iron Age and Romano-British material. In sum the assemblage of pottery from the site is entirely consonant with the ceramic finds expected from the region. There were no exceptional Roman pottery finds on the site, and (as noted) no single context merited detailed quantification. In sum, in view of the poor condition and small size of the assemblage, it is suggested that no further work be carried out save perhaps for more detailed characterisation of the dating evidence in any report intended for an academic target audience.

7.6 Notes on the context dating evidence

The dating evidence list comprises a much abbreviated record based on the index record. The following notes expand typical terms used in the table:

- C1-3 Date bracket only. No other comment possible
- C2+ Second century date but condition suggests later context date probable or likely.
- C3+ Third century, formula otherwise for C2+
- Med Medieval
- M PM Medieval and Post medieval material
- MIA Middle Iron Age
- Mod Modern
- Pre Prehistoric. Prior to the later pre Roman Iron Age (No wheel-thrown pottery present).
- RB Roman date. No more precise dating possible

Table 7.1

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Context	Sub	Total	tot	Condition	Date
ACHW 135		1		Unknown	pre
C5914	A			Unknown	C4
MT				Unknown	PMed
T49		1		Unknown	C2-4
TR57				Unknown	M PM
205		1		Abraded	pre
216		1		Abraded	C1/2?
300				Abraded	C2/3+
300	1	3		Unknown	C2+
301		VSQ	5	Unknown	C1/2+
306		1		Abraded	C1+
314		Q-SQ		Abraded	c1/2
324		2		Abraded	C1/2
332		VSQ	5	Unknown	C2+
333	1	VSQ	5	Abraded	C1/2
405		1		Abraded	Med?
503		1		Unknown	C1/2?
504		4		Abraded	C1/2
506		3		Abraded	C2+
507		1		Abraded	Und
509		1		Abraded	RB
510		1		Abraded	RB?
515	-	1		Abraded	C3+
520		VSQ	5	. Abraded	. ?RB
522		3		Abraded	C1-2nd
523	1	1		. Abraded	C3+
525		1		Abraded	und
528	-	1		Abraded	C1/2
529	-	1		Abraded	RB
531		1		Abraded	pre

Context	Sub	Total	tot	Condition	Date
532		6		Abraded	pre
533		2		Abraded -	C2+
534		2		Abraded	RB
562		1		Abraded	C2+
601		1		Abraded	C1?
602		VSQ	5	Abraded	M PM
604		2		Abraded	RB
606		1		Abraded	RB
607		VSQ	5	Abraded	RB
802		SQ	10	Unknown	C300+
807		VSQ	5	Abraded	Undated
1014		SQ	10	Abraded	C1-1
1309		SQ	10	Abraded	RB
1501		1		Abraded	RB
1515		1		Abraded	C1/2
1918	· ·	1		Abraded	C2??
1922		3		Abraded	Pre
1925	1	2		Abraded	RB
1927		2		Abraded	RB?
2103		2		Abraded	M PM
2113		2		Abraded	M Pmed
2125		1		Abraded	RB
2131		1		Abraded	FG
2137	-	3		Abraded	. RB?
2202		1		Abraded	RB
2286		1		Abraded	RB
2405		2		Abraded	C2+
2406		VSQ	5	Abraded	RB
2407		2		Abraded	C1/2
2408		SQ	10	Abraded	Pst Rman?
2409		3		Abraded	pre
2412		VSQ	5	Abraded	c2+

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Context	Sub	Total	tot		Condition	Date
2415		so	10		Abraded	PRE
2416		4			Abraded	RB
2417		SQ	10		Abraded	PRE
2420		SO	10		Abraded	c2+
2423		SQ	10		Abraded	C2/3+
2425		SQ	10		Abraded	C2+
2426		4			Abraded	Pst Rman?
2431		3			Abraded	RB
2433		4			Abraded	C1/2
2436		3			Abraded	RB
2438		SQ	10		Abraded	C1/2
2451		1			Abraded	RB
2459		2			Abraded	RB
2546	1				Abraded	C2+
3002			[Abraded	C3/4 M PM
3005		25		М	Abraded	RB M PM
3008		200		М	Abraded	C2-4
3014		10		U	Unknown	C2+
3102		2			Abraded	rb?
3108	1	50		М	Abraded	C3+
3109		5			Abraded	RB
3111		10		М	Abraded	c2+
3114		7			Abraded	M Pm
3115		4			Unknown	C2+
4108		4			Abraded	pre
4109		1			Abraded	C2+
4114		3			Abraded	C2+
4204		1	·		Abraded	RB
4207		13			Abraded	C1/2
4211		7			Abraded	RB
4212		6			Abraded	RB
4330		3			Abraded	RB

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Context	Sub	Total	tot		Condition		Date
4332		9			Abraded		C1-2
4506		4			Abraded		C2+
4508		1			Abraded		C2/3
4511		12			Abraded		C2+
4512		4			Abraded		C2+
4610		13			Abraded		C1/2+
		10			Abraded		C1/2
4708		9			Abraded		C2+
4712		4			Abraded		Pre
4714		3			Abraded		C1-2
4806		3			Abraded		RB [·]
4812		2		1	Abraded		C2+
4813	<u> </u>	5			Abraded		C2+
4905		· 5		1	Abraded		M Pmed
4908	+	5			Abraded		C2+
4913		2		-	Abraded		C2-3+
4924		1		1	Abraded		c240+
4927		1		-	Abraded		pre
4941		1			Abraded		pre
4948		8		-	Abraded		C1/2
4950		4			Abraded		C2+
5003		1			N/A		C15+
5007		6		-	N/A		P Med
5008	+	1			N/A		P Med
5013		1	-		Abraded		C1/2?
5015		5	+		· Fresh		C1/2nd
5021		5			Good		C2nd
5105	_	2			Abraded		RB
5108		11	-		Abraded	_	C3+
5111		2			Abraded		C1/2nd
5318		SO	10	,	Very abra	ded	c4
		4			Abraded		C2-C2+

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Context	Sub	Total	tot		Condition		Date
5323		SQ	10		Pulverised		C2-4
5339		4			Average		C2-4
5343		1			Abraded		RB
5345		SQ	10		Very abraded	1	RB
5351		4			Abraded		C2
5353		1			Abraded		pre
5356		1			UNknown		C2-4
5362		SQ	10		Abraded		C250-350
5364		VSQ	5		Abraded		C1/2
5365		2			Abraded		RB
5368		4			Abraded		RB
5402		2			Scraps		RB?
5405		3			Chips		RB
5425		1			Abraded		RB?
5435		1			Abraded		RB
5437		1			Unknown		RB
5441		1			Abraded		RB
5442		VSQ	5		Abraded		Pre
5444	-	1			Abraded		RB
5446	-	VSQ	5		Unknown		RB
5509		4			Abraded		C2-4
5513		1			Abraded	_	C2+
5515		1			Abraded		Undated
5602		2			Abraded		Mod
5603		1			Unknown		RB ·
5604	+	1			Unknown		P Med
5618	+	4			Abraded		c240+
5620		1		·	Abraded		pre
5622		SQ	10		Abraded		pre
5631		1			Abraded		C1/2
5653		1			Abraded		pre
5654		2			Abraded		C1/2+

Context	Sub	Total	tot		Condition		Date
5705	 	0/50	15		Abraded		PRE
5705	<u>с</u>	2.	~~		Very abraded		RB
5709	Δ	50	10		Abraded		RB
5711	Δ	1			Very abraded		C240+
5717	A		10		Very abraded		P MED
5720	B	SO	10		Abraded		C2+
5720	A	SO	10		Not recorded		PRE
5730		3			Abraded		RB
5732	 B	SO SO	10		Average		C2+
5733	B	SQ SQ	10		Abraded		C2+
5739		4			Abraded	1	C2+
5741		5			Abraded		C3+
5747	B	SO	10		Abraded		RB?
5757	B	5			Abraded		C1/2
5810		3			Abraded	-	pre
5903	B	4		<u> </u>	Abraded		C4
5903	A	2			Abraded		C2+
5906					N/A	-	P Med
5907		1			Abraded	-	C2+
5912	A	6		М	Abraded	over 6	c3+
5914	A	SQ	10		Abraded		C350+
5916	A	1			Abraded		C2+
6104	-	2			Abraded		C3-4
6106		1			Abraded		C1
6110		2			. Abraded		pre
6111		1			Abraded		C1-1
6208		1		-	Abraded		RB?
6307	+	Q/SQ	15		Abraded		C3-4
6310	-	SQ	10		Abraded		C1-3
6407		1			Abraded		RB
6471	-	VSQ	5		Abraded		M Pm

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Context	Sub	Total	tot	Condition	Date
6604		VSQ	5	Abraded	C1-1
6605	 	VSQ	5	Abraded	M PM
6610		VSQ	5	Abraded	pre?
6620		VSQ	5	Abraded	Ç1-1
7001				Abraded	M Pmed
7002		SQ	10	Abraded	RB
7003		12		Abraded	LPRIA
7004		SQ	10	average	Pre
7005		SQ	10	Abraded	Pre
7006		SQ	10	Abraded	IM Pmed
7023		3		Abraded	ERB
7024		5		Abraded	MIA
7025		SQ	10	Abraded	C2+
7027				Unknown	M Pmed
7036	<u> </u>	2		Abraded	RB?
7040	+	1		Abraded	pre
7042		5		Abraded	pre
7043				Unknown	NK
7044		2		Abraded	pre
7045	+	9		Abraded	pre
7046	+	2		Abraded	pre
7048		1		Abraded	pre
7049		1		Abraded	C2+
7053	+	3		Abraded	C2+
7059		8		Abraded	MIA
7060		6	-	Abraded	pre
7069		1	-	Abraded	pre
7070	+	1		. Abraded	MIA
7071		5		Ábraded	MIA
7072		2		Abraded	?pre or Med
7075				Abraded	pre
			1	Ablaucu	Pre

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Context	Sub	Total	tot	Condition	Date
7079		1		Abraded	 BR
7082			-	Unknown	NK
7085		4		Abraded	 PRE
7087		1		Abraded	 PRE
7090		5		Abraded	PRE
7103		3		Unknown	PRE
7104		3		Unknown	PRE
× 7105		1		Unknown	PRE
7108				Unknown	P Med?
7119		4		Abraded	PRE
7120		8		abraded	PRE
7125		4		Unknown	PRE
7126		SQ	10	Abraded	pre+ int rb
7129		2		Abraded	PRE
. 7132		SQ	10	Fair	LPRIA
7133		2		Abraded	poss RB
7134		4		Abraded	PRE
7138		6		Abraded	 LPRIA/ERB
7139		9		Abraded	MIA
7141				Unknown	PRE
7146		1		Abraded	PRE
7148				Unknown	PRE
7149		1		Abraded	PRE
7153		1		Abraded	PRE
7162		4		Unknown	C2+
7163		3		Unknown	PRE
7166		SQ	10	Good	MIA
7168		2		Abraded	MIA
7170		SQ	10	Abraded	RB+
. 7176		3		Abraded	PRE
7177		1		Abraded	PRE
7180		SQ	10	Abraded	PRE

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Context	Sub	Total	tot		Condition		Date
7181		2			Abraded		PRE
7182		3			Abraded		C2+
7186		2			Unknown		PRE
7189		SQ	10		Abraded		PRE
7191		9			Abraded		PRE
7193		7			Abraded		RB
7195		6			V abraded		PRE
7197		4			Abraded		lia
7198		1			Abraded		PRE
7201		1			Abraded		PRE
7207		1			Abraded		PRE
7209		SQ	10		Abraded		C2
7210		SQ	10		Abraded		PRE
7211	1	VSQ	5		Abraded		PRE
7212		VSQ	5		Abraded		PRE
7220		1			Abraded		PRE
7221		SQ	10		Abraded		LPRIA
7226		VSQ	5		Abraded		PRE
7233		VSQ	5		Abraded		C2+
7235		VSQ	5		fair		LIA
7240		VSQ	5		Abraded		PRE
7245		SQ	10		Abraded		C1/2nd
7252		VSQ	5		Unknown		PRE
7261		5	1		Abraded		ERB
7267	-	3			Abraded		Pre
7275	_	1			· Abraded		pre
7276		1		-	Abraded		RB
. 7277		1		· ·	Abraded		?RB
7280	-	SQ	10		Abraded		C1/2
7281		3		+	Abraded		C1?
7295		3	_		Abraded		PRE
7300	-	1			Abraded		PRE
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Context	Sub	Total	tot	Condition	Date
7309		2		Abraded	PRE
7312		2		Abraded	PRE
7315		SQ	10	Abraded	C1/2
7402		1		Abraded	C1/2
7403		2		very abraded	C1/2
7404		VSQ	5	Abraded	RB
7407		VSQ	5	Abraded	pre
7412		1		Abraded	PRE
7414		2		Abraded	PRE
7416		1		Abraded	PRE
7417		2		Abraded	PRE
7420		15		Abraded	PRE
7424		5		Abraded	PRE
7425	1	3		Abraded	PRE
7431		1		Abraded	PRE
7433	1	2		Abraded	PRE
7442		8		Abraded	PRE
7448		4		Abraded	PRE
7450		1		Abraded	PRE
7452		1		Abraded	PRE
7458	-	1		Abraded	PRE
7464		VSQ	5	Abraded	PRE
7466		1		Abraded	PRE
7468		VSQ	5	Abraded	PRE
7483		4		Abraded	PRE
7485		2		· Abraded	PRE
7488		VSQ	5	Abraded	PRE
7492		VSQ	5	Abraded	PRE
		947	590		

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8. Assessment of the medieval and post-medieval wares, by F.M. Meddens

8.1 Introduction

The pottery assemblage discussed below consists of a total of 1878 potsherds.

This pottery discussion does not go into any detail about the unstratified finds. These are enumerated in the appended database reports however. The pottery derives from 205 contexts. The appended database reports (see Appendix I for examples) provide a summary and detailed description of the pottery.

8.2 The Material

The assemblage almost exclusively dates to the medieval and post-medieval period; the contexts with earlier material were removed from the group prior to spot dating. There are 7 residual earlier elements of Roman date, these sherds came from context 2421, 3102, 5013, 6713 and 6790. The majority of the contexts contains less than 10 sherds. There are 43 contexts containing 10 sherds or more and 1 with more than 100 sherds, these are listed below.

CONTEXT	NUMBER	CONTEXT	NUMBER
2	11	2503	69
518	17	2505	11
600	32	2517	11
601	21	3002	50
801	. 20	3013	20
1800	254	3102	18
1802	10	3236	50
2201	47	3243	16
2202	58	3260	36
2203	17	3307	10
2212	13	3310	75
2219	28	3404	13
2252	19	3405	16
2253	79	3507	16
2257	31	3509	12
2258	15	3702	62
2261	19	3703	64
2266	18	5013	59
2274	29	6774	10
2288	11	3934	10
2292	22	7006	10
2321	16	7072	10

Table 8.1
A number of contexts contain exclusively medieval material. Where these contexts contained a single sherds they have not been listed in this text but details are available in the appended summary and detailed database reports.

The contexts with exclusively material of medieval date are 314, 1924, 2101, 2105, 2117, 2118, 2539, 2541, and 5019. Additionally a number of contexts of post-medieval date include residual medieval pottery. These are contexts 1211, 1217, 1405, 2116, 2319, 3002, 3703, 5013, 5021, 5132, 6605, and 7006.

Of particular interest is a quantity of material dating to the first half of the 19th century which is associated with the company of J. Tucker. This firm was engaged in silk-printing until 1862. The ceramic material appears to be related to the manufacturing processes associated with this company. The relevant contexts are: 1800, 3233 and 6803, all of these contain stone ware vessels made for the works specifically, and marked 'J. Tucker West Ham Abbey'. There are a number of other contexts which, though they do not contain similarly marked material, do contain pottery of a matching date, and types related to industrial activity of a similar kind. The pertinent contexts are: 3203, 3206, 3234, 3236, 3243, 3253, 3260, 3275, 3282, and 5116.

For a slightly earlier period, sometime between 1700 and 1800 there are a series of contexts which contain material which appears to have been associated with a distilling process. Most of this pottery consists of receivers. The relevant contexts are: 2201, 2212, 2219, 2229, 2238, 2252, 2253, 2257, 2258, 2266, 2274 and 2313.

Context 2503 should be noted as out of a total of 69 sherds there are 65 which are of a Rearen type stone ware, which all appear to belong to the same large jug.

Additionally of special interest are a Frechen type import with a moulded embossed design representing Adam and Eve with the apple tree and snake from contexts 3702 and 3703. These are of a large vessel and the pieces appear to be part of the same jug. There are also some pieces of good quality imported Chinese porcelain present in context 3703, including what may be a comparatively early fragment with a Ch'ung-Chêng reign mark of 1628-1643.

8.3 Conclusions

The condition and quality of this material suggests that it would be worth while to carry out more detailed analysis. A detailed comparison with archival evidence and study of any other finds materials could be especially fruitful in providing a well-rounded picture of the site and its development over the 17th, 18th and 19th centuries. The small number of contexts with apparently undisturbed medieval remains may be of use in filling in further details with respect to the archiving and analysis of a large medieval component of the site currently being carried out by Newham Museum Service. The late medieval material is of interest, because of the comparatively few studies of material of this date so far (EOP 1991: 37) as well as its relevance to the dissolution at this particular site.

The post medieval period has been extensively ignored in the Greater London area, a condition which has only recently started to be remedied. Exploring our past (EOP 1991: 42) notes the importance of comparative studies of urban and rural industrial sites related to the processes associated with cloth manufacture and dying. Further study of waste and process on industrial sites is stated as a national research priority (EOP 1991: 42). This assemblage, as part of an integrated multi-disciplinary approach, clearly offers opportunities for detailed analysis and study in this direction.

9. Assessment of small finds, by Leigh Allen

9.1.1 Quantification

There were a total of 41 objects, including 5 coins recovered from the three stages of investigation at Stratford Market Place. The context, phase and preliminary identification of each object we recorded in the table below. The Roman coins were identified by P Booth (OAU).

Table 9.1

Context	Object	Description	Date	Phase
203	Coin	Modern coin	19th century	19th century
509	Shaft	Shaft and tip from a needle or pin	-	c. 1870
511	Needle?	Point with an expanded head and remains of a sub rectangular perforation.	-	Post-1870
518	Coin	Modern coin	1861	c. 1870
801	Pins(x2)	Two drawn pins with wire wound heads	Med/ Post Med	Modern
803	Jews Harp	Jews harp with tongue missing, diamond shaped cross section	Post Med	Post-1870
1214	Ring	Plain ring with sub rectangular section	-	1600-1800
1227	Pins(x5)	Five drawn pins with wire wound heads	Med/ Post Med	1600-1800
1240	Pins(x2)	Two drawn pins with wire wound heads	Med/ Post Med	1600-1800
1240	Pin	Drawn pin with wire wound head	Med/ Post Med	1600-1800
1501	Brooch/ buckle pin	Pin, tapering along its length slightly curved at the expanded end where it would have been attached to the brooch/ buckle frame	-	Modern
1514	Lace tag	Lace tag with a perforation at one end to secure the lace.	Med/ Post Med	Unphased
1535	Pin	Drawn pin with wire wound head	Med/ Post Med	Unphased
2102	Shaft	Shaft and tip from a pin or needle.	-	1500-1800
2103	Pins(x2)	Two drawn pins with wire wound heads	Med/ Post Med	1500-1800

2103	Object	Small strip fragment, square section, twisted along its length, broken at both ends.	-	1500-1800
2292	Thimble	Straight sided thimble with hand applied indentations	Med/ Post Med	1600-1800
2415	Coin	Roman Coin (VICTORIAE DDAUGG QNN, c AD 341- 346, Trier)	Roman	Prehist/ Roman
2517	Button	Cast domed brazed button	Post Med.	1600-1800
2524	Pin	Drawn pin with wire wound head	Med/ Post Med	1600-1800
3008	Coin	Roman Coin Probably House of Constantine c AD 330-360	Roman	Prehist/ Roman
3008	Coin	Roman Coin Roman Probably 4th century		Prehist/ Roman
3304	Button	Plain circular discoidal button	Post Med.	1600-1800
3307	Pin	Drawn pin with a wire wound head	Med/ Post Med	19th century
3324	Pin	Drawn pin with wire wound head	Med/ Post Med	1600-1800
5002	Pin	Drawn pin with wire wound head	Med/ Post Med	?1600-1800
5020	Pin	Drawn pin with wire wound head	Med/ Post Med	?1600-1800
Tr 53	Disc	Plain circular disc	-	Prehist / Roman
5335	Disc	Plain circular disc	-	Prehist/ Roman
6774	Tack	Tack with flat, circular flanged head, square cross section.	-	Silk Printing Works
6941	Pin	Drawn pin with wire wound head	Med/ Post Med	1800-1900
6941	Strip	Possible shaft fragment from a pin or needle.		1800-1900
7001	Pin	Drawn pin with wire wound head	Drawn pin with wire wound Med/ Post head Med	
7027	Button	Plain circular discoidal button with integral loop	Post Med.	Post-1870

9.1.2 Means of collecting data

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Visual examination and X-radiography of metalwork.

9.1.3 Statement of Potential

There were 5 coins recovered from the excavations, of which two were modern; the remaining three are Roman. The most securely dated is a 4th century coin of the house of Constantine (AD 341-346) recovered from context 2415 - the other two coins from context 3008 are very corroded but appear to be 4th century. Faint traces of an image on the obverse of one coin indicate House of Constantine within the date range AD 330-360 (identified by P Booth OAU).

All of the remaining 36 copper alloy objects are medieval or post medieval in date. Twenty drawn pins with wire wound heads were recovered from 12 contexts. These pins were in use from the 14th century but became more common in the 16th to 17th centuries (Biddle and Hinton 1990, 560-561). Examination of the head type reveals that the majority of examples have an anti-clockwise twist to the head and the head is then tightly crimped on to the shaft. Caple, in his article on the medieval and post medieval pin industry refers to this as head type C, dominant after c 1700 (C Caple 1991, 246). Many of the pins show traces of non-ferrous plating on the head or shaft.

There are three post medieval buttons, two being plain discoidal buttons with integral loops which were recovered from contexts 3304 and 7027. Similar examples recovered from excavations at Winchester are referred to as Blazer or Livery-buttons and were recovered from contexts dating to the 18th to 19th centuries (Biddle and Cook 1990, 573-578, figure 155, no.1756). The third button recovered from context 2517 was a cast domed brazed button with integral loop; it is machine made with an incised groove running around the circumference. Similar examples from Winchester were recovered from 18th to 19th century contexts (Biddle and Cook 1990, 573-576, figure 155, No.1726).

A lace tag with a single perforation at one end to secure the lace was recovered from context 1514. Lace tags were in use in the 14th century but they become more common in the 16th century (Biddle and Hinton 1990, 583).

A thimble was found in context 2292. It has straight sides with a slightly domed top, and the spiral of slightly irregular indentations has been applied by hand leaving a plain band at the base. Thimbles with elongated straight sides are typical of the post medieval period (Biddle and Elmhirst 1990, 804-805).

A near complete Jews harp came from context 803. The tongue is missing although there is a recess in the loop where the tongue would have been attached. The cross section of the harp is diamond shaped, and examples such as these are typically Post Medieval(Lawson 1990, 724, figure 206, No.2269).

The remaining ten objects are either unidentified or undiagnostic (see table 9.1).

The assemblage contains no notable objects, the three 4th century Roman coins may be useful for dating purposes the remaining 26 identifiable Medieval or Post Medieval objects are of common form and can not be dated closely within this period.

9.1.4 Storage and curation

The objects are at present carefully packed in dry storage with silica gel, the relative humidity is regularly monitored.

9.1.5 Aims and Methods

The production of a computerized catalogue of the copper alloy assemblage for the archive is recommended other than this no further analysis of the objects is necessary.

9.2 Assessment of bone objects, by Leigh Allen

9.2.1 Quantification

There were a total of 5 bone artefacts recovered from the three stages of excavation at Stratford Market Place. The context, phase and preliminary identification of each object is recorded in the table below.

Context	Object	Description	Date	Phase	
3704	Comb	Fragment from a double sided simple comb	Post Med	18th century	
2202	Tuning peg	Tuning peg with squared off head and cylindrical shaft	Med/ Post Med	1760-1900	
2118	Object	Rough bone point, originally polished	Med	After 1500	
801	Object	Fragment from a highly polished strip	-	Post 1870	
Tr.15	Object	Worked and decorated bone object, possibly a handle	-	Unphased	

Table 9.2

9.2.2 Statement of Potential

Of the five bone objects from Stratford Market Place, two objects are too fragmentary to be identified. A tuning peg from an instrument such as a harp, lyre or simple lute was recovered from context 2202. Pegs such as these have a broad date range from the 14th to 17th centuries (Lawson 1990, 711-718) A fragment from a double sided simple comb came from context 3704, with regularly cut fine and coarse teeth. The toothed edge shows some concave shaping, a common feature in combs of the 17th century and later (Galloway 1990 670, figure 185, No.2180). The final object is a worked and decorated fragment, possibly a handle from a walking stick or riding crop recovered from Trench 15. The assemblage contains no notable objects.

9.2.3 Storage and curation

The objects are at present stored dry, their condition is regularly monitored.

9.2.4 Aims and Methods

The production of a computerized catalogue for the archive is recommended, other than this no further analysis of the objects is required.

10 The worked flint, by Philippa Bradley

10.1 Introduction

A small assemblage of worked flint was recovered from both phases of evaluation and the open area excavation. In addition a large quantity (*c* 2000 pieces) of burnt unworked flint was recovered mainly from trench 70. The assemblage was briefly scanned and recorded, noting relevant technological traits. The burnt unworked flint was scanned but not fully quantified. Eleven pieces of flint were still on display at the Passmore Edwards Museum at the time of the assessment and were not examined. However, the majority of these pieces were seen shortly after excavation finished and they will be discussed below but are not included in the summary table. The assemblage is summarised below.

Context .	Flakes	Blades etc	lrregular Waste	Chips	Cores	Retouched Forms	Burnt Unworked flint	Total
Phase I Evaluation - Prehistoric and Roman	61 (inc. 1 core rejuvenation flake)	7	3	4	5 (1 opposed platform blade core, 1 single platform flake core, 2 fragments)	3 (1 end and side scraper, 1 edge blunted point, 1 misc.)	2	85
Phase I Evaluation - Medieval	13	1	2	-	-	-	94	110
Phase I Evaluation - Factories	5	-	-	-	1 (1 multi- platform flake core)	2 (1 side scraper 1 end scraper)	-	8
Phase II Evaluation - Prehistoric and Roman	12	2	1	-	6 (1 multi- platform flake 1 blade core 2 tested nodules 2 fragments)	5 (2 end and side scraper 1 obliquely blunted point. 1 piercer 1 awl)	164	190
Excavation Trench 70	78 inc. 1 core rejuvenation flake	11	5	12	7 (1 opposed platform blade core 2 multi- platform flake cores 4 fragments)	4 (1 obliquely blunted point 1 serrated flake 1 retouched flake 1 misc.)	c 1742	1,859
U/S	2	-	-	-	• -			2
Total	171	. 21	11	16	19	14	2002	2254

Table 10.1 Summary Quantification

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10.2 Raw materials

Two types of flint appear to have been used: a yellow-brown flint with a worn cortex, iron staining was noted on this material, the flaking quality of this material varied. This material is probably derived and may have been available from local gravel deposits. A better quality flint was also used, this was generally dark brown to black in colour with a thin white chalky cortex. This material may be chalk flint although it may derive from surface deposits. Cortication is generally light and some sand glossing was also noted. Many pieces have suffered some degree of post-depositional damage.

10.3 Dating

Mesolithic and Neolithic material appears to be present on the diagnostic retouched forms and the technology of the debitage. A possible Bronze Age element is represented by hardhammer struck flakes, some irregularly worked cores and one or two or of the retouched pieces. The quantities of burnt unworked flint would also accord with a later Bronze Age date.

Mesolithic activity is represented by a series of microliths, a piercer, blade cores, blades and blade-like flakes. All of the microliths are simple types, generally on proximal truncations. The majority of the microliths are obliquely blunted points (recovered from contexts 4610, 5903, 4203, 7108 and 4917). The example from context 4917 has ancillary trimming to the tip. A single edge blunted point was recovered from context 2420, it was probably broken during manufacture. These types of microlith occur throughout the Mesolithic (Pitts and Jacobi 1979). However, the relatively small size and the presence of ancillary trimming on one *may* indicate a relatively late date. Careful, controlled knapping is evidenced by blades, blade-like flakes and blade cores. Platform edges have been abraded between removals and generally soft-hammers have been used. A piercer from context 5810 would also seem to be of this date.

Less certainly dated are the remaining retouched pieces consisting of scrapers, a retouched blade, an awl and the serrated flake. All of these pieces are carefully retouched and would not be out of place in a Neolithic or early Bronze Age context. Although some of these relatively undiagnostic retouched forms could well be earlier in date, for example, the serrated flake, on purely technological grounds it is difficult to assign these pieces to specific periods. An oblique arrowhead from context 5105 is of later Neolithic date.

An element of irregularly worked flakes, cores and shattered pieces would appear to be Bronze Age in date, probably late Bronze Age. Hard-hammers are almost exclusively used, and cores are very irregularly worked. A scraper on a thick, cortical flake from context 1932 may also be of this date.

Is it to be computerized and then fighter

11 Assessment of ironwork finds, by Ian Scott

11.1 Background and assessment methodology

11.1.1 Background information

The fieldwork from which the finds derive was undertaken in three phases: Evaluation phase 1 (trenches 1-40, Evaluation phase 2 (trenches 41-66), and Excavation (trenches 39 & 70).

The major chronological and structural phases are: Prehistoric and Romano-British; Medieval (Abbey); Silk-printing works; Factories and so forth (of lesser importance). These periods of activity are concentrated within different areas of the site and can be broadly related to trenches:

Period	Phase of work	Trench(es)*	Quantity of iron objects		
	Phase 1	<u>2</u> , 3, 4, 5, <u>6</u> , <u>8</u> , <u>24</u> , <u>30</u> , 31	17		
Deshistoria and Roman	Phase 2	41-66 (incl <u>45</u> , <u>49</u> & <u>59</u>)	3		
ricinstoric and Roman	Excavation	70	0		
Medieval (Abbey) #	Phase 1	13, <u>14, 21, 22, 23, 25, 33, 34,</u> <u>35, 36, 37</u>	63		
# No work was underta	ken by the OAU on t	he Abbey after Phase 1	··		
Silk-printing works	Phase 1	32	13		
	Excavation	<u>39</u>	3		
	! <u></u>				
Factories and so forth	Phase 1	1, 9, 10, 11, <u>12</u> , <u>15</u> , 16, <u>17</u> , 18, <u>19</u> , 20, <u>38</u>	7		
	۱ <u>۰</u> ۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰				
Trench numbers not n/a 7, 26, 27, 28 29 & n/a used n/a n/a n/a n/a					
* Trench numbers und	erlined indicate preser	nce of iron objects			

Table 11.1: Areas of Activity, listing trenches and numbers of iron objects

11.1.2 Aims of Assessment

The primary aims of the assessment of the ironwork were:

- 1) To establish the quantity, quality and preservation of the iron objects
- 2) To establish, where possible the range of types
- 3) To establish the distribution of objects in relation to activities on site distinguished in broad chronological terms.
- 4) To identify iron objects from dated contexts.

11.1.3 Assessment methodology

The complete collection was scanned and the numbers of objects quantified (Table 11.5). For all objects context number, small find number, where applicable, and brief description were noted. The state of preservation of the assemblage was assessed subjectively and those objects which would benefit from X-radiography noted. Where possible individual objects were identified. The identifications were necessarily provisional given the corroded state of many of the items. No detailed measurements were taken, although a number of objects (principally nails) were measured for comparative purposes. At this stage no account was taken of context or phasing.

Following the scan, the objects have been quantified by trench and context. The distribution of objects in relation to known areas of activity, Trench and context is tabulated in Table 11.6.

11.2 The Assessment

11.2.1 Quantification

The assemblage is small consisting only 107 objects, of which 1 (a nail from context 1904) was non-ferrous (Table 11.5), and comprising a limited range of objects. Only 1 object cannot be assigned to a trench and context.

11.2.2 Quality and Composition of the assemblage

The composition of the assemblage is not inspiring. Most objects (71 or 66%) can be characterised as nail(s), possible nail(s), or rod or wire. A further 10 objects are unidentifiable or heavily corroded fragments. The material is not well preserved, but for the most part appears to be stable, although there are some signs of splitting due to corrosion.

Table 11.2: Composition of the assemblage

Classification	No
Nails (various size & types)	47
Hobnails (small fused group)	1
Non-ferrous nail	1
Possible nails/wire or rod	12
Rod or wire/possible nails	10
Other objects	. 26
Unidentified pieces	10

11.2.3 Distribution by area of activity

Table 1 lists the quantities of ironwork by area of activity. Although the largest group of finds (63) derives from the area of medieval activity, it is clear that this reflects more then extent of later, late post-medieval, activity rather than activities related to the Abbey site. Iron finds come from only four contexts which can be dated to the medieval period. Most of the ironwork recovered from all areas of the site is from late, mainly 19th-century, contexts. For more detail of the distribution by area and context see Table 11.6.

11.2.4 Finds from dated contexts (Table 11.6)

. Only 11 objects are derived from early contexts:

IA/RB activity

4 objects from possible RB ploughsoils (contexts 201, 3008 & 4506); 1 object from a RB ditch (context 4590) and 1 object from an IA/RB posthole (context 5905A). This gives a total of 6 objects, of which only the possible socketed tool (?billhook) from 4590 is of any intrinsic interest. There are a small number of fused hobnails (with little metal remaining) from 3008. The other objects are small fragments.

There is 1 object, a nail or length of wire, from a post-Roman context (2426).

Medieval activity

2 objects from a late medieval pit (context 2103), 1 object from a medieval pit (context 2137) and 1 object from a late medieval/early post-medieval context (2299). This gives a total of 4 objects, of which only the possible lock case from context 2103 is of interest. there remaining finds are nails.

Silk Printing Works

There are 16 objects from the excavation trenches within the area of the Silk printing works. Of potential interest are objects from contexts 3233, 3236, 3241 and 3934.

11.3 Potential

The assemblage as a whole has little or no potential for further analysis. The only objects of real interest are the possible socketed tool from RB context 4590, and the possible lock case from medieval context 2103. There is some potential interest amongst a small number of the objects from the silk printing works.

11.4 Proposed work

For most of the assemblage no further work will be required and the limited catalogue and notes produced for the assessment will suffice. The some or all of the limited number of objects listed above should be published as part of the assemblage from earlier phases. To this end these objects should be x-rayed and given some limited cleaning as necessary to establish their identification and the confirm or not their potential:

Date/Area	context	identification	further work
RB	4950	possible socketed blade/tool	X-ray and part clean to reveal form
Med	2103	possible lockcase	X-ray and possibly part clean to reveal form
Silk printing works	3233	welded bars	X-ray
	3236	bar of triangular cross-section	X-ray and possibly part clean to reveal form
	3241	welded bars	X-ray and possibly part clean to reveal form
	3934	semi-circular bar/object	X-ray

Table 11.3

The limited publication proposed will require a brief description and drawing of the identified objects. The maximum number of objects is 6.

Trench no	Context no	sf no	Quantity	Identifications	Box no
2	210		1	rod or wire of circular cross-section	4
	212		1	nail, large, square section, incomplete	nail
	600		1	large pin, circular section with square head	4
6			1	plate fragt (+ 2 v small bits)	4
	(602)		0	(nothing in bag)	1
8	801		1	hasp plate?, consisting of thin plate	4
12	1211		1	thin rectangular cross-section at each end, but set in planes at 90° to each other. Possible tool?	nail
14	1405	· ·	1	curved rod or nail	nail
			1	corroded nail head, little stem	nail
15	1500		1	large heavy rectangular plate pierced by a rectangular slot	4
17	1702		1	length of wire or circular rod	4
			1	tube, threaded on exterior (modern)	4
19	1904		1	corroded object	4
		1	nail, well-preserved. <u>Not</u> fe. Non-ferrous alloy?	nail	
	2103	25	1	lock case?	3
			1	nail, square section stem	nail
21	2117		1	corroded lump	4
			1	rectangular section bar with rod extending from one end	4
	2137		1	?nail, heavily encrusted	nail
	2202	T	1	small corroded nail	nail
	2203		5	nails, square section. 2 well-preserved (90mm & 95mm) (+ 1 fragt)	nail
	2204		1	nail, thin tapering stem, small head	nail
	2223		1	nail, long, square section, small head (195mm)	nail
			4	nails, square cross-section	2
22	2236		1	thin strip with nail	2
			1	tube (pipe) (modern)	3
	2251		1	nail, short, largish head, corroded	nail
	2258		1	corroded nail or rod fragt	nail
	2266		1	corroded wire or nail fragt	nail
	2274		1	rod, encrusted and corroded	1
22	2292		1	corroded lump, wire or nail fragt?	nail

List of ironwork assessed. 11.5

Trench no	Context no	sf no	Quantity	Identifications	Box no
(cont)			1	nail, corroded, incomplete	nail
	2299		1	nail. large, corroded. Most of square section stem lost	nail
	5021		1	corroded nail	nail
	2401		1	circular plate, broken	1
24	2405		2	corroded fragts	1
			2	corroded wire or nail fragts	nail
	• 2426		1	2 x v tiny fragts (1 obj)	nail
	2501		· 1	curved rod or nail	3
25	2506		2	heavily corroded nail fragts or wire	nail
	2517		2	heavily corroded nail fragts	nail
	2539		1	corroded nail fragt, uncertain section	nail
	3002		1	nail fragt	nail
			1	nail fragt	nail
30	3005		1	large nail, more or less complete, tapering chisel stem, small square head. Hand made (100mm)	nail
	3008		1	fused hobnails?	2
			1	small plate fragt	2
	3013		1	badly corroded object, small piece of ?rod	4
	3201		2	wire nails	3
	3211		1	heavily encrusted ?nail	nail
			1	two pieces of heavy bar welded side by side	1
	3233		1	stout bar of rectangular section	3
			1	substantial rod of circular section	3
32	3234		1	corroded fragt. Not a nail?	nail
	3236		3	nails in mineralised wood	2
			1	bar or strip of triangular cross-section (cast fe?) (some cu alloy corrosion?)	2
	3241		1	two pieces of heavy bar welded side by side	
			1	Large nail or pin with tapering square section stem and large ?circular head	3
33	3304		. 1	plate or fitting	2
	3400		1	length of rod/wire or nail. Uncertain section	nail
34	3404		1	heavily encrusted nail, uncertain section	1
			2	short lengths of wire	1
	3405		2	heavily corroded small fragts	nail

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Trench no	Context no	sf no	Quantity	Identifications	Box no
	3502		1	large nail (or small wedge), square? section	nail
	3504		1	length of rectangular section bar	4
35	3508		2	corroded nail fragts	nail
	3511		1	large horseshoe	2
			3	nails, or lengths of rods	2
	1		2	plate fragts, subrectangular and slightly curved	4
			1	plate fragt, part of decorative hinge?	4
37	3702		3	nails. 1 with tapering square sectioned stem, 2 fused together, incl 1 with large circular head	nail
			5	fragts of nails or wire, 1 with fragt of clay pipe fuse to it	nail
			1	V-shaped fragt, could be a pair of tongs or perhaps scissors	nail
	3703		1	nail, square section tapering stem, small head, hand made	nail
38	3804		1	tin can!	5
39	3934	105	1	semicircular object formed from bar of rectangular section, maybe incomplete. Apparent flange on one face at one end	CA 2
	6781	-	1	bar or U-shaped binding	6
			1	fragt of rod	6
45	4506		1	unidentifiable fragt	5
49	4950	61	1	large curved object, could be a socketed blade or tool	CA 2
59	5905A	66	1	length of rod or wire, bent into an apparent hook, with substantial corrosion products	CA 2
u/s			1	small plate fragt	5
Т	otal no of obj	ects	107		

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Trench No	Context Nos	Quantity	Comments - context and/or date
Area of Prehi	storic and Roma	no-British ac	tivity
2	210	1	ploughsoil, probable RB
	212	1	fill of sewer cut, 19th C
6	600	2	make-up, post-1850
	(602)	0	(no metal recorded from context)
8	801	1	plough soil, probably 19th C
24	2401	1	silt on c 1850 land surface
	2405	4	post-1850
	2426	1	fill of posthole, ?post-Roman
30	3002	2	?ploughsoil, post-medieval or later
	3005	1	as 3002
	3008	2	ploughsoil, ?RB
	3013	1	fill of ditch, 19th C
45	4506	1	ploughsoil, ?RB
49	4950	1	fill of ditch, RB (2nd C or later)
59	5905A	1	fill of posthole, IA or RB
	Sub-total	20	
Area of Med	ieval activity (Al	bbey)	
14	1405	2	layer, medieval, pottery 1270-1350
21	2103	2	fill of pit, possibly late medieval
	2117	2	post-medieval
	2137	1	fill of pit, medieval
22	2202	1	19th C
	2203	5	19th C
	2204	1	19th С ·
	2223	l	19th C
	2236	6	19th C
	2251	1	17th-18th C
22	2258	1	18th C

11.6 Quantities of ironwork by Area of activity Trench and Context

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Trench No	Context Nos	Quantity	Comments - context and/or date
(cont)	2266	1	17th C
	2274	1	18th C
	2292	2	16th-17th C
	2299	1	15th-16th C
	5021	1	16th C
25	2501	1	post-1850
	2506	2	19th C
	2517	2	post-medieval
	2539	1	post-medieval
33	3304	1	?17th-18th C
34	3400	1	make-up, post-1850
	3404	3	as 3400
	3405	2	robber trench, ?post-medieval
35	3502	1	fill of cut, post-medieval or later
	3504	1	deposit, post-medieval or later
	3508	2	as 3502
	3511	4	post-medieval
37	3702	12	18th-19th C
	3703	1	post-medieval or later
	Sub-total	63	
Area of Sill	k-printing works		
32	3201	2	fill of pipe trench
	3211	1	fill of drain
	3233	3	fill of cut, 19th C or later
	3234	1	19th C
	3236	4	late 19th C or later phase of Print Works
	3241	2	as 3236.
39	3934	1	19th C
	6781	2	2 19th C

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Trench No	Context Nos	Quantity	Comments - context and/or date
Factories and so forth			
12	1211	1	deposits, 19th C
15	1500	1	make-up, post-1850
17	1702	1	?ploughsoil, no date
19	1904	3	fill of late drainage channel
38	3804	1	make-up, post 1850
	Sub-total	7	
	Total no	106	

Note Above list excludes 1 unstratified piece not identified to trench.

12 Human skeletal assessment, by Angela Boyle

12.1 Introduction

A total of three skeletons were identified though only two were excavated and retained for further analysis. Skeleton 2439 was tightly crouched within an oval pit and the upper body was beyond the limits of excavation. The excavated skeletons 5657 and 7423 also appear to have been crouched.

12.2 Methodology

The skeletons were assessed in order to ascertain the likely potential for further detailed analysis of the material. Completeness of each skeleton was assessed along with the preservation of individual bones. Additionally the assemblage was scanned with a view to identifying possible age range, sexual markers and any notable pathology.

12.3 Results

Skeleton 2439 was assessed on the basis of data in plan and slides and was a probable adult individual. Skeleton 5657 was a possible adult male individual. Preservation was extremely poor: there were no complete bones and all surfaces were much degraded. Very marked anterio-posterior flattening of the right tibia was noted. Skeleton 7423 was a perinatal infant. Perinatal deaths include still births and deaths of term babies and those in the first week of independent life. A foetus is said to be potentially viable after 28 weeks. This assessment of age is based on the length of the right humerus and uses the tables appearing in the Poundbury report (Farwell and Molleson 1993) which is based on the work of Fazekas and Kosa (1978). Although this skeleton was virtually complete preservation was poor: most long bones were broken; the skull and torso were particularly fragmented.

The poor preservation of this very small assemblage precludes the need for further detailed analysis.

13 Assessment of the animal bones, by K. Clark, PhD, BSc and A. Powell, MSc, BA

13.1 Introduction

Between 1991 and 1993, the Oxford Archaeological Unit carried out two phases of field evaluation and an open-area excavation at the site of Stratford Market Depot, on behalf of the Jubilee Line Extension team. The northern part of the site yielded material from prehistoric (mainly Iron Age, with some earlier) and Roman (up to 4th century AD.) features, and features probably associated with the West Ham Abbey Print Works. The southern part of the site produced remains from the Medieval Stratford Langthorne Abbey, and several phases of factories. After Phase I, further work there was carried out by Passmore Edwards Museum, which is not discussed here.

13.2 The assessment

The bones were assessed at Oxford Archaeological Unit on 17 January by K. Clark and A. Powell. All bone was examined, with the exception of material from surface and unstratified contexts. Table 1 shows the distribution of the recovered bone. The total number of fragments assessed from disassociated bones was 2813.

In addition, three substantially complete, and one partially complete, horse skeletons, were present, as well as a dog skeleton. These are discussed separately, and are not included in the tables.

No sieving took place.

	Period	No. fragments
Phase I	Prehistoric and Roman	448
	Medieval	1151
	Silk-printing works	19
	Factories, etc	103
Phase II	Prehistoric and Roman	• 48
Excavations	Prehistoric and Roman	1040
	Silk-printing works	· 4
Total		2813

13.3 Condition

The condition of the bone was very variable. This has a bearing on the suitability of the

assemblage for further analysis, and has been assessed here on a scale of 1 to 5, where 1 is excellent, with little post-depositional alteration and good preservation of butchery, etc., and 5 describes highly altered material, where species identification is unlikely (Table 2).

In addition, burnt bone was noted in eight 'prehistoric and Roman' contexts, and one 'Medieval' context.

	Period	Condition (%)				
		1	2	3	4	5
Phase I	Prehistoric & Roman	10	25	33	37	-
	Medieval	30	47	22	-	1
	Silk-printing works	-	33	67	-	-
	Factories, etc	43	43	15	-	-
Phase II	Prehistoric & Roman	-	13	60	27	-
Excavations	Prehistoric & Roman	2	44	39	16	-
	Silk-printing works	100	-	-	-	-

Table 13.2

13.4 Results

The proportion of identifiable material from each period is summarised in Table 3.

Period	Identified to species	% identifie
Prehistoric and Roman	281	18.3
Medieval	365	31.7
Silk-printing works	4	17.4
Factories, etc	40	38.8

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13.5 Species Representation

'Prehistoric and Roman'

Cattle fragments are the most frequent, followed by sheep/goat and pig. Horse remains are relatively common. A few bones of domestic fowl are present.

'Medieval'

Once again, cattle remains are the most frequent, with sheep/goat, horse, pig and dog present in that order of abundance. In addition to domestic mammals, wild mammals are represented by one specimen of roe deer (*Capreolus capreolus*), and one of hare (*Lepus sp.*). c60 bones of domestic fowl were noted, and the bones of other bird species present in smaller numbers included c20 of goose. Fish bones were present in small numbers.

'Silk-printing Works'

Only a few bones were identified from these contexts. were present, however the sample is too small for further comment.

'Factories'

Horse, cattle, domestic fowl and some bones of unidentified bird species occurred in small numbers. A mandible, possibly belonging to fox (*Vulpes vulpes*) was also present.

The proportions of the major domesticates present in the 'prehistoric and Roman' and 'Medieval' deposits is shown in Table 4.

Table 13. 4

Percentage of identified fragments				
Period	Horse	Cattle	Shẹep/g oat	Pig
Prehistoric & Roman	8.5	61.6	20.6	7.8
Medieval	6.6	47.4	15.9	6.0

13.6 Skeletons

'Prehistoric and Roman'

Horse #1 (Context 2437)

Much of this was in a fragile condition, so handling was kept to a minimum, with bones not being removed from bags. The skeleton belonged to an adult animal and was almost complete, lacking only the metapodia, carpals, tarsals and phalanges. The skull and mandible were very fragmentary, but tooth rows were present. The major limb bones were in relatively good condition, with the exception of both radii and ulnae. Much of the material was measurable. Given the condition, details such as butchery marks, especially knife marks, may be difficult to discern.

Horse #2 (Context 7133)

This belonged to a small, adult individual. The bones were in a better state of preservation than horse #1. Most of the skeletal elements were present, with the exception of the skull and upper teeth, and some phalanges and tarsals. It will be possible to obtain a good series of measurements on this skeleton.

Dog (Context 7498)

This was a complete skeleton, although the skull and jaws were fragmentary. The bones were in good condition and belonged to a large, powerful dog.

'Factories'

Horse #1 (Context 1227)

A complete adult skeleton in excellent condition, including an intact skull. Some evidence of pathology in the form of exostoses on the metapodials.

Horse #2 (Context 1240)

Several bones, probably from the same individual. Elements present are: one rib, right and left pelvis, sacrum, six vertebrae, two each of the first, second and third phalanges, and a sesamoid; all in excellent condition.

13.7 Recommendations

The identifiable fractions from both the 'prehistoric and Roman' contexts (281 bones) and 'Medieval' (365 bones) are at the lower end of sample sizes from which it is possible to obtain information on diet and husbandry. The wide temporal range covered by 'prehistoric and Roman' complicates matters: many larger faunal assemblages have been recovered from Roman London, an assemblage of this size (or smaller, after earlier material has been separated out) has a low priority for further analysis. However, a search of the library and archive suggests a paucity of Iron Age assemblages from London, so the Iron Age material will merit further work if it can be clearly separated from the Roman material.

Although the 'Medieval' assemblage is not large, in view of the good condition of the material, the relatively large number of species present, and its association with a known historic building, this material merits further analysis. As no sieving took place, quantitative and metrical work will not be possible on the fish bone.

Deposits of complete horse and dog skeletons are not uncommon in Iron Age or Roman contexts (for example, Danebury (Grant 1984), or Barber *et al* (1990) for two dogs and a horse buried in pits in a Roman cemetery); however, although it is known that Iron Age horses were smaller than modern animals, published measurements from complete skeletons are rare (Grant 1984).

The following recommendations are made:

1) The dog and two horse skeletons from the 'prehistoric and Roman' contexts be analysed in detail, recording metric, ageing, butchery, and pathology etc. information where possible. Our quotation reflects the time required to analyse horse #1 in view of the careful treatment required due to its condition.

2) The Iron Age material be analysed fully, provided the dating of the 'prehistoric and Roman' contexts is refined.

3) The dating of the features from the 'Medieval' group be refined, and the assemblage be analysed further, with the aim of examining the economy of the Medieval Abbey and comparing it with similar, contemporary sites (eg. Armitage & West (1985), Driver (1990)).

4) No further work is recommended for the 'silk-printing works' or 'factories' material, except for the skeletons provided they can be closely dated.

14 Charred plant remains by Dr M Robinson, G. Campbell and D. Wilkinson

A total of 16 samples were selected for the assessment. This included material from each of the animal and human burials, and samples were also chosen to represent the different periods thought to be represented on the site, and the different areas of the site. The chosen samples were as follows:

Context	Fill of	Date	Sample No.
324	Ditch 331	1st/2nd	6
2420	Around horse burial 2437	?Roman	20
2420	Around inhumation 2124	Medieval	24
3014	Fills ditch 3018	2nd+	29
<i>1</i> 100	Ploughsoil	?Roman	30
5624	Around inhumation 5623	Undated	144
5012B	Fills nit 5911B	late Roman	32
7124	Around horse burial 7124	MIA	102
7134	Around infant burial 7423	Prehistoric	30
7420	Around dog burial 7498	Undated	40
7497	Lower fill of ditch 7145	LPRIA	90
7132	Lower fill of ditch 7145	Prehistoric	88
7044	Burnt fill of pit 7123	MIA	59
7070	Fill of pit 7140	MIA	95
7139	Fill of pit 7161	EIA	97
7140	Fill of scoop 7183	2nd+	111
7102	Fill of ditch 705	1st/2nd	122
7243	Fill of pit 7260	Early Roman	136

14.1 Methodology

Each of the 16 samples were processed by mechanical flotation in a modified Siraf machine with the sample held on a 0.5mm mesh and the flot caught on a 0.25mm mesh. Samples 29, 32, 97 and 122 were pre-soaked in sodium carbonate solution to break down the high clay content. The resulting non-floating residue was separated into >10mm, 10-4mm and 4-0.5mm fractions by washing through 10 and 4mm sieves. The >10 and 10-4mm fractions were sorted for bone and artefacts. 100% of the 4-0.5mm residue was retained for later sorting, as the fine residue fractions were small in size.

The resulting flots were small, or very small, for most of the samples; only samples 32 and 59 produced medium sized flots. All the samples contained a small amount of carbonized plant remains; most of this appeared to be wood charcoal, although charred cereal grain was observed in 9 of the samples. Mollusca were virtually absent. They were recovered from samples 6 and 169, but the quantity was very small.

Unburnt bone was recovered from 12 of the samples; SS 29, 30 and 97, which were rich in bone, also produced some burnt bone fragments.

14.2 Assessment results

The flots were assessed by Dr Mark Robinson of English Heritage Environmental Archaeology Unit, Oxford University Museum.

The flots were small, or very small, for 14 of the 16 samples and the charred remains were badly degraded, which made identification difficult. Mollusca were absent from the flots.

Charcoal was present in most of the samples, although it was mostly unidentifiable due to the minute quantities. Oak (<u>Quercus</u>) charcoal was identified in samples 20, 29, 30, 88 and 168, but only sample 32 (from fills pit 5911B) produced a large amount. Sample 59, the burnt fill from MIA pit 7123, contained alder (<u>Alnus</u>) or hazel (<u>Corylus</u>) charcoal. Due to the poor preservation, further work would be required to confirm the exact species. <u>Pomoideae</u> (subfamily including hawthorn, apple, pear etc.) type charcoal was found in sample 97 (the fill of pit 7161) which also contained a charred nut shell fragment. The latter is most likely to be hazelnut (<u>Corylus avellana</u>) given the dating of pit 7161 to the early Iron Age. Small lumps of coal were found in 4 of the samples (SS 29, 95, 136, 169). These pieces of coal are most likely to be the remains of Roman fuel, since there is other evidence of Roman activity on the site.

Charred cereal grains were present but not plentiful; most samples contained one charred seed, usually unidentifiable. Wheat (<u>Triticum</u>) was present in samples 6, 24, 88 and 90. These seeds appeared to be spelt wheat (<u>Triticum spelta</u>) but could only be confirmed in samples 88 and 90. Uncharred seeds present in 7 of the flots included elderberry (<u>Sambucus nigra</u>) and blackberry (<u>Rubus</u>). The recovery of these seeds can be explained by several possible reasons; the possibility of medieval sewerage, modern earthworm action or genuine ancient survival in near waterlogged conditions. None of the samples from which these seeds were recovered had waterlogged characteristics. Given that the site was contaminated in places, it is most likely to be the result of medieval sewerage. Weed seeds were not abundant. Uncharred sedges (<u>Carex</u>) were found in sample 30 and charred grasses (<u>Gramineae</u>) were recovered from samples 29 and 90. A single rib-wort plantain was present in sample 97.

Due to the poor preservation of the charred remains, it was recommended that no further work be undertaken on the site.

15 Geoarchaeological assessment of selected monolith material

Summary

This project was commissioned by Mr Dave Wilkinson of the Oxford Archaeological Unit (OAU) as part of the archaeological evaluation programme for a series of excavations undertaken by the OAU at the site between 1991 and 1993.

The project aims to characterise the nature of the sediments within one profile (section 201, trench 70). This has been achieved using detailed descriptions of the samples, magnetic susceptibility and Total Phosphate analysis. A comparison of this information has been undertaken with the sedimentologically logged stratigraphy and the stratigraphic context recording undertaken by the OAU during site excavation.

The results show that:-

- 1. Stratigraphic boundaries between contexts can be verified in the laboratory recorded sediment descriptions but the position/nature of the context may vary.
- 2. Additional stratigraphic units are present.
- 3. There is an increase in the Total Phosphate values near the base of the recorded section.
- 4. Mass specific magnetic susceptibility values increase up profile. This may be a weathering feature associated with pedogenesis and land use history.
- 5. Some evidence suggests that stratigraphic mixing may have occurred

Further work could usefully be undertaken on key archaeological sections (and compared to sections apparently unaffected by anthropogenic activity) to provide detailed information pertinent to determining the land-use history of the site. This work should integrate detailed sedimentological recording, magnetic susceptibility, Total Phosphate and X-radiography with limited micromorphological analysis.

15.1 Introduction

This project was commissioned by Mr Dave Wilkinson of the Oxford Archaeological Unit (OAU) as part of the archaeological evaluation programme for a series of excavations undertaken by the OAU at the site between 1991 and 1993. The site lies in the vicinity of the old Stratford Market (Figure 1) and has been redeveloped as carriage sheds for the new London Underground Jubilee Line Extension currently under construction.

The Geoarchaeological Service Facility (GSF) of the Institute of Archaeology, University College London undertook a series of field visits to the site during the OAU field program trench excavations. These visits resulted in the stratigraphic logging, recording and sampling of a series of profiles at various locations within trenches deemed to be of archaeological relevance.

This report was commissioned in order to characterise the nature of the sediments within one profile in order to compare sedimentologically logged stratigraphy with stratigraphic context recording undertaken by the OAU during site excavation. No attempt was made as part of this assessment to place this sequence in a site context. This assessment did not attempt to review all GSF sample locations and further work could be undertaken on samples from these locations.

This report is structured to present detailed investigation of the monoliths (Section 15.3). This is followed by detailed discussion of the results (Section 15.4), recommendations for future work (Section 15.5) and conclusions (Section 15.6). Detailed monolith descriptions are presented in Figs 12, 13.

15.1.1 Aims and objectives of the study

The aims and objectives of this study were determined after discussion between GSF staff and project manager Mr. Dave Wilkinson on 5th February 1996. The aims of the project were to:

- 1. Clean, record and describe the stratigraphy present in the two selected monoliths.
- 2. Photograph the cleaned monoliths and subsequently undertake X-radiography of the cleaned monoliths (if possible).
- 3. Undertake magnetic susceptibility determinations on both undisturbed monolith samples.

The objectives of this study were to:

- 1. Provide a detailed characterisation of the stratigraphy preserved in the two monoliths.
- 2. Compare the described monolith stratigraphy with the context recorded stratigraphy undertaken in the field during site excavation.
- 3. Determine the degree of stratigraphic integrity of the samples, note the degree of bioturbation and mixing of the stratigraphy.

- 4. Determine whether further characterisation of stratigraphic profiles would aid in determining the nature of the site formation processes.
- 5. Determine whether soil micromorphological analysis at key points in the sequences would aid in determining land-use history at the site.

>

15.2 Fieldwork at the site and the location of the samples

The section selected for investigation was logged, recorded and sampled by the GSF on the 2nd April 1993. The stratigraphy was logged and sampled from Section 201, Trench 70, and included feature number 7502. This section contained OAU context numbers 7000, 7001, 7004/7166, 7233, 7245 and 7251. Two monoliths were taken and three kubiena tins. A full stratigraphic log and sample summary is presented below, and in fig. 10.

Depth below top	Stratigraphic description
of context 7001	
(metres)	
0.00 - 0.26	10YR 3/1 very dark grey slightly sandy silt. Moderate to low
	frequencies of sub-angular flint clasts (<5cm). Occasional ceramic
[7001]	fragments, quartz pebbles and bone. Structureless and massive.
	Clasts increase in size towards base of unit.
ı	diffuse contact
0.26 - 0.62	2.5Y 4/2 dark greyish brown slightly sandy silt with occasional flint
	clasts. Flint clasts are sub-angular (<3cm). Occasional root casts at
[7004]	top, decrease in frequency with depth. Dark red flints are present
	towards top of unit. Massive and structureless.
	diffuse contact
0.62 - 0.79	5Y 3/2 dark olive grey fine silt with some sand and clay.
	Occasional angular to sub-angular flint clasts. Occasional large
[7233]	angular ceramic fragments (brick or tile) and fire cracked flint.
	Occasional coarse grey pot sherds. Structureless and massive -
	more dense than overlying unit.
	diffuse contact
0.79 - 1.00	5Y 2.5/2 black, becoming 5Y 4/2 grey at base, fine silt. Occasional
1	green mottles (5Y 4/4) that are hard, compact patches. Frequent
[7245]	small (<0.5cm) angular flint clasts and occasional quartz peoples.
	Structureless and massive. Occasional large, angular fire cracked
	flint and patches of cemented sand.
	Base of observed section
SAMPLES:	M02 0.10 - 0.60m
	M03 0.50 - 1.00m
	K3 0.27 - 0.35m
	K4 0.47 - 0.55m
	K5 0.68 - 0.76m

Table 15.1.Stratigraphic log, OAU context numbers [in parenthesis] and samples
from Trench 70, section 201, Stratford Market.

Field recording was undertaken and logged using standard GSF recording techniques commonly used by field geologists (Held in archive, Bates *et al.*, 1995). All samples taken were wrapped in cling film and sealed with tape. Subsequently all samples have been stored in light tight conditions under controlled temperatures in cold store in the Wolfson Archaeological Science Laboratories at the Institute of Archaeology, University College London.

15.3 Laboratory assessment of the samples

The aims of the laboratory assessment have previously been stated in section 15.1. After detailed visual descriptive recording and sub-sampling of the monoliths it became clear that an examination of the samples using X-radiography of the monolith inserts (semi-circular plastic tubing within the stainless steel tin, used to support the undisturbed sample during X-radiography) would not be sensible. This was a result of the failure of sediment to completely fill the monolith inserts during sampling in the field due to trapped air within the monolith tin and the subsequent drying of the samples. The resulting uneven distribution of sediment in the insert and the delicate condition of the sample would have led to poor quality, low resolution X-radiographic plates that would have been difficult to interpret and the possible total destruction of the samples during their removal from the stainless steel monolith tins.

Resources and time were therefore concentrated on producing high resolution, high quality mass specific magnetic susceptibility measurements at 1cm intervals and a small amount of chemostratigraphic data using the Total Phosphate content.

15.3.1 Methodology

The monolith samples were cleaned, recorded using standard sedimentological techniques (Reineck and Singh, 1980) and photographed. Sub-samples were then taken at one centimetre intervals through both monolith samples. None of the samples crossed any of the stratigraphic boundaries identified during detailed recording of the stratigraphy. Sub-samples were used for determining the mass specific magnetic susceptibility assessment and Total Phosphate levels. Remaining samples are stored under controlled conditions for possible further analysis.

Samples were prepared and assessed for mass specific magnetic susceptibility using standard methods as outlined in Gale and Hoare (1991). The methodology used during the preparation and assessment of the Total Phosphate samples is outlined in Appendix II.

The results of the detailed description, mass specific magnetic susceptibility and Total Phosphate content are shown in Figure 11. Figure 11 also shows the stratigraphy recorded in the field.

15.3.2 Stratigraphy from M02 and M03

The detailed descriptions of monoliths M02 and M03 have been presented in Figures 12, 13 and the stratigraphic log of the sequence in Figure 11. The stratigraphy contained within the monoliths showed 4 stratigraphic units.

M02 contained 3 stratigraphic units. Unit 1 was present from the top of the monolith with a clear and smooth lower contact at 0.32m (below the top of the section). This unit consisted of a poorly sorted silty sand with frequent clasts of flint, quartz and ceramic building material. Unit 2 consisted of another silty sand unit containing vivianite and less frequent gravel clasts. The base of the unit is marked by a clear smooth contact at a depth of 0.42m (below the top of the section). Unit 3 is present within monolith M02 and continues into the top of monolith M03 and is present to a depth of 0.84m (below the top of the section). This unit again consists of a silty sand with vivianite and rare gravel clasts. Hollows are present within the sediment at the top of unit 3 and possibly represent root canals. Unit 4 at the base of monolith M03 consists of a silty sand with flint gravel clasts and an increase in the sand content down through the unit.

15.3.3 Mass specific magnetic susceptibility from M02 and M03

The data produced by the assessment of the mass specific magnetic susceptibility has been plotted adjacent to the stratigraphic log for the sequence and is presented in Figure 11.

The data produced from the study of the mass specific magnetic susceptibility of the sequence shows three distinct patterns within the sequence. These patterns have been determined down profile from examining the minimum values. This has been done in order to identify trends and isolate noise thought to be created by the random distribution of fragments of ceramic building material and slag within the sequence.

The first of the patterns is present within M02 and shows a steady reduction in the minimum values for the magnetic susceptibility from approximately $50-70 \times 10^{-6} \text{ m}^3 \text{kg}^{-1}$ to around 7- $12 \times 10^{-6} \text{ m}^3 \text{kg}^{-1}$. This pattern is seen from the top of M02 to a depth of 0.48m (below the top of the section) and is present through units 1, 2 and into the top of unit 3. The second pattern within the sequence is seen between 0.48 and 0.84m (below the top of the section) through the base of M02 and into M03 (representing unit 3). Through this part of the sequence there is a very slight rise in the minimum values which rise from 6 to $9 \times 10^{-6} \text{ m}^3 \text{kg}^{-1}$. The third of the patterns is present below 0.84m (below the top of the section) to the base of monolith M03. There is a rise in the minimum values to $10 - 13 \times 10^{-6} \text{ m}^3 \text{kg}^{-1}$ within unit 4. This change takes place across the boundary between units 3 and 4.

15.3.4 Total phosphate content for M02 and M03

The results of the Total Phosphate content assessment are plotted on Figure 11. The results and the methodology used during this assessment are presented in Appendix II.

All values returned from the selected samples show elevated levels of phosphate present within the sequence. No clear pattern is present within the Total Phosphate content data.

Monolith M02 shows Total Phosphate values of between 880ppm (parts per million) and 1420ppm. There is a rise in the Total Phosphate content within monolith M03 where values are between 970 and 3210ppm. This increase in the concentration of phosphate within the sequence appears to take place at approximately 0.60m (below the top of the section) and occurs in approximately the same location as the boundary between context 7004 and 7233 (as identified in the field).

15.4 Interpretation of the results

Differences have been noted between the descriptions of the sequence recorded in the field and laboratory. Laboratory description suggest that the sediments are coarser grained than indicated by the field descriptions. This is likely to be a result of the drying of the samples and shrinkage of the silt/clay minerals (during almost 3 years in storage), leading to an over representation of the sand fraction.

There have also been discrepancies noted between the position of the boundaries between units recorded in the field and laboratory. For example the lower boundary of unit 1 has been recorded 6cm lower in the laboratory than in the field. In addition the field and the laboratory descriptions of the nature of the contacts vary and have been recorded as diffuse and clear respectively. The precise location of these boundary types is subjective and differences in the location of the boundary are expected with changes in lighting conditions, moisture content and between operators. The visual description of context 7245, as described in the field is different to the description of the sediments at the equivalent depth within monolith M03 (unit 4). The laboratory description of these sediments suggest this unit is coarser with a higher sand content than suggested by the field description. This may be due to the presence of a sand patch within the sediment sampled by the monolith (sand patches are noted in the field description of the context/unit). The boundary between units 3 and 4 is approximately 5cm lower than the boundary between contexts 7245 and 7233 identified in the field. The boundary described in the field is diffuse and the boundary between units 3 and 4 has been described as clear and smooth. The subtle nature of this boundary and changes in the lighting conditions and/or moisture content may have lead to operator bias in its location.

This comparative exercise has also revealed an additional unit identified in the laboratory description of the sequence (unit 2), and present within monolith M02, that does not appear to be present in the field description. It is similar to unit 3 (present in both monoliths M02 and M03).

The results of the mass specific magnetic susceptibility assessment also provide a basis for the sub-division of the sequence. The results of this assessment are shown in Figure 11.

The pattern present within the top of monolith M02 (through units 1, 2 and into 3 (contexts 7001, 7004 and into 7233)) shows a steady decrease in the minimum values for the magnetic susceptibility from $50-70 \times 10^{-8} \text{ m}^3 \text{kg}^{-1}$ to $6-9 \times 10^{-8} \text{ m}^3 \text{kg}^{-1}$ at a depth of approximately 0.48m (below the top of the section). This apparent reduction in the magnetic susceptibility of the sediment represents a gradual reduction in the number of particles which are susceptible to the induced field present within the sediment. This may be a function of sediment weathering, a mixing downwards of magnetically susceptible particles or a depositional

contemporary trend in included magnetically susceptible particles.

Below 0.48m (below the top of context 7001) the mass specific magnetic susceptibility signal becomes more stable and remains at approximately $6-9x10^{\circ} \text{ m}^3\text{kg}^{-1}$ through the remainder of unit 3 (context 7233 and into 7245 as identified in the field). At the base of unit 3 (identified in the laboratory) there is a slight increase in the magnetic susceptibility at the boundary between unit 3 and 4 (increase to $10-13x10^{\circ} \text{ m}^3\text{kg}^{-1}$). The coincidence of the stratigraphic boundary identified in the laboratory and the change in the magnetic susceptibility properties of the sediment may indicate that there is a change in the properties of the sediment. The minimum values of the mass specific magnetic susceptibility remain relatively stable to the base of monolith M03.

The Total Phosphate concentration present within the sediment is shown in Figure 00. The results of this limited assessment appear to show higher Total Phosphate values are present below approximately 0.60m (below the top of the section) and is coincident with the boundary between contexts 7004 and 7233. This may however represent a patchy distribution of phosphate within the sequence represented by the patchy distribution of the phosphate mineral vivianite, or represent a real pattern.

15.4.1 Summary of results for monoliths M02 and M03

The results from this limited study suggest that:-

- 1. Stratigraphic boundaries between contexts can be verified in the laboratory recorded sediment descriptions but the position/nature of the context may vary. This may be the result of i) different lighting conditions, ii) changes in the moisture conditions during storage and iii) operator bias.
- 2. Additional stratigraphic units are present.
- 3. Primary fill units (contexts 7233, 7245) appear to have higher Total Phosphate values than units higher in the section.
- 4. Mass specific magnetic susceptibility values increase up profile through the upper part of 7004 and into 7001. This may be a weathering feature associated with pedogenesis and land use history.
- 5. Some evidence suggests that stratigraphic mixing may have occurred

The results of this study appear to indicate that the primary fill of the feature may contain relict stratigraphy relatively un-modified by later landuse history. The upper parts of the stratigraphic stack in the studied section may have been reworked by ploughing and/or pedogenic activity. These results require verification and additional investigation of other sections across the site will be required in order to evaluate the significance of these results.

15.5 Recommendations for further work

The results of the preliminary study on the monolith samples from the site have indicated that further work could usefully be undertaken on additional samples from other sampled sections at the site. The objectives of the preliminary assessment have been achieved and indicate that further work integrated with limited soil micromorphological analysis may provide data pertinent to determining land-use history at the site.

It is suggested that the following additional work is required:

- 1. Investigation of three additional profiles at the site including visual description of the sediments, magnetic susceptibility measurements, Total Phosphate determinations and where possible X-radiographic analysis. This work should be undertaken on two additional profiles in areas of known archaeological features and a single profile in an area apparently undisturbed by human activity.
- 2. Detailed investigation of one profile (selected after study of the results of the preliminary investigation of all four profiles) to characterise the loss-on-ignition/carbonate properties of a representative stratigraphic stack from the site in order to examine in detail trends within the sequence and the nature of the stratigraphic contacts identified. In particular the nature of the contacts will be examined to determine the status of these transitions.
- 3. Selection of a maximum of two sections from which micromorphological thin section analysis could be undertaken.

15.6 Conclusions

The results of the assessment have provided useful information and aid the characterisation of the sequence studied at the site. The project assessment objectives were listed in Section 15.2. These objectives have largely been achieved and are listed below:

- 1. A detailed characterisation of the stratigraphy preserved in the two monoliths has been achieved using visual description, magnetic susceptibility measurements and Total Phosphate determinations. Due to sample quality it was not possible to produce X-radiographic images of the sequences.
- 2. The laboratory recorded monolith stratigraphy was compared with the context recorded stratigraphy undertaken in the field during site excavation. The precise location and nature of the contacts recorded in the field and laboratory descriptions were noted to be at variance although correlations could be made. An additional stratigraphic unit was recorded in Monolith M02.
- 3. The degree of stratigraphic integrity of the samples, presence/absence of bioturbation and mixing of the stratigraphy was noted.
4. It has been suggested that further characterisation of stratigraphic profiles (a total of 3 additional profiles is recommended), using loss-on-ignition/carbonate determinations coupled to further susceptibility and Total Phosphate levels, would aid in determining the nature of the site formation processes.

16 Revised research aims and methods - prehistoric and Roman

The results of the excavations have now been summarised and are qualified by the comments on the results and discussion of potential (Sections 4-6). Each class of find is also assessed and some statement of their potential to yield useful results from further analysis has been made by each specialist (Sections 7-15). This section, and Sections 17-18, presents a series of research *aims* which take into account the perceived potential of the data (excavation and finds) to fulfil them. It also presents the *method* by which it is proposed to achieve each aim.

16.1 Before the late Bronze Age

1

- Aims:
- to document the existence of activity on or near the site before the late Bronze Age, and, to locate any possible concentration or concentrations of this activity
- 2 to characterise the flint assemblage
- Method Quantify burnt flint and scan for worked flint, followed by spatial analysis of worked flint. Results of this to be incorporated with analysis included in this report to form basic publication of flint assemblage.
- *Comment* It will be important to note any relation between the results of the spatial analysis and other perceived patterning on the site, such as the apparent concentration of prehistoric evidence around Trench 70.

16.2 Late Bronze Age to late pre-Roman Iron Age

- Aim To document the existence of a site, probably a settlement, where activity took place in the late Bronze Age/early Iron Age, the middle Iron Age and the late pre-Roman Iron Age.
- Method Refine and amplify through finds and context analysis an outline site description broadly similar (in level of detail) to that given in this assessment report. For exceptions to this see Sections 16.4, 16.5.

Publication of prehistoric pottery at a similar level of detail as given in this report, with exception of some strengthening of section on regional parallels, and more detailed definition of the pottery as dating evidence (Section 18.1). below).

Comment Neither stratigraphic evidence, site patterning, or the artefactual dating offer sufficient means to analyse the site into detailed phases - for these reasons, further analysis is not considered worthwhile. The pottery publication is intended to explain the dating evidence (i.e. the principal periods represented) and the general characteristics of the period. No more detailed analysis than

this is recommended due to the unexceptional nature of the assemblage, its poor condition, and the high degree of residuality (see Section 7).

16.3 Roman

- Aim
- 1 To document the existence of a site, probably a settlement, occupied in the later 1st century and 2nd centuries, and possibly later.
 - 2 To demonstrate the increase in agricultural activity across the site in the later Roman period, possibly due to the demise or shift of the settlement, and to characterise any other changes in use of the site.
- Method Publication of an outline site description broadly similar to that given in this assessment report (for exceptions see Sections 16.4, 16.5).

Publication of the Roman pottery at a similar level of detail to that given in this report, but with some enhancement of the dating evidence (see below, Section 18.1).

Comment As for 16.2.

16.4 The vertical sequence

- Aim To provide an outline land-use model for the site, describing and (where possible) explaining the sequence from subsoil to the modern ground surface. A better understanding of the (proposed) Roman ploughsoil is seen as a key element in this aim.
- Method
- 1 Further analysis of relationships between key elements of the site, namely, the relationships of: alluvial features to archaeological features; ploughsoils to archaeological features and to each other; later ditches to ploughsoils.
- 2 Pottery dating evidence and geoarchaeological data as presented in this report to be integrated with the model.
- 3 Micromorphological analysis will be undertaken on samples from layers 7245 (ditch fill) 7233 (?feature fill, ?lower ploughsoil) and 7004 (ploughsoil), in order to demonstrate variations in formation processes. These deposits are shown on Figure 10; the micromorphology will thus be directly related to the geoarchaeological assessment work already carried out, and will aid in its interpretation.
- *Comment* Apart from micromorphological analysis, no further geoarchaeological work is proposed because the assessment has shown very limited results which are of direct use in understanding the site sequence. Further detailed work of type suggested from the assessment (15) is not felt to be appropriate given the generally low interpretative potential of the site.

Given that little further stratigraphic analysis of the prehistoric and Roman archaeological features is proposed, integration of these into the vertical sequence will be limited, but still useful.

16.5 Animal and human burials

Introduction

The potentially most important evidence from the site consists of the animal and human burials. Such evidence has the potential to contribute to a range of research questions, notably those relating to burial rite, and to religion and ritual generally. Taking human burial first, two adult skeletons and one neonate were excavated at Stratford, with one of the adults being left in situ. The regional burial picture in the Iron Age is both complex and unclear. At Mucking, for example, pre-conquest burials included inhumation and cremation cemeteries, and two groups of square-ditched barrows (Clark 1993: 19). Also possibly relevant is the late Iron Age Aylesford-Swarling cremation culture. This may have extended into the east London area, but some distributions suggest not (Philpott 1991: 6; Cunliffe 1991: 133, fig.6); it thus remains a possibility that inhumation was practised in the late Iron Age. We should also note that inhumation was rare in the Iron Age as a whole, and may have been a practice linked with certain special individuals (Waite 1985: 118). It is less likely, given the crouched and tightly-flexed burial positions, that the adult inhumations were Roman, but the possibility cannot be ruled out, particularly if a native rite continued to be used during the post-conquest period; this is in itself an important research question (English Heritage 1991A: 36).

Two complete or near-complete horses and one complete dog were found at Stratford Market Depot. The burial of complete animals has been proposed as certain evidence of ritual, and as possible evidence of sacrifice (Waite 1985: 150-1); they are frequently found in Iron Age storage pits (Cunliffe 1991: 505). The presence of animal burials at Stratford, if Iron Age, would be interesting in that here there is no evidence for storage pits, as is commonly the case on floodplain sites. As with human burials, the question of rites continuing into the post-conquest period may also be relevant, and has thus far received little attention from scholars.

This very rough survey of possible research questions serves to underline one crucial point, namely, that some understanding of the date of the burials will be required. As a minimum, it is desirable to know whether they are prehistoric or Roman, while it would be far better if they could be placed into the main dating phases used for the site, namely: late Bronze Age/early Iron Age, Middle Iron Age, late pre-Roman Iron Age, later 1st to 2nd century AD, and later Roman. The assessment has shown that in terms of location, all the burials bar one adult inhumation are most likely to be prehistoric, in that they are concentrated at the north end of the site (Section 00). This is, however, far from conclusive, and the stratigraphic and pottery evidence are not sufficient to provide any more refined dating, leaving radiocarbon dating as the only possible technique (see below, aims and method).

In addition to attempting to date the burials, it will also be desirable to extract as much evidence as possible from the skeletons themselves, with regard to metric information, age,

butchery, pathology etc. This is largely applicable only to the animal skeletons, for reasons given below.

Aim (1) To date five of the six animal and human burials (the exception is the example left *in situ*). To demonstrate whether the burials were Iron Age or Roman, and if possible to fit them into the main phases of the site.

Method Radiocarbon dating - due to the differing size of available samples, the techniques used are likely to include high precision dating, normal precision dating and AMS dating. The proposed techniques are as follows:

Adult human 5657	Normal precision or AMS
Neonate 7423	AMS
Horse 2437	High precision
Horse 7133	High precision
Dog 7498	High or normal precision

Information as to the likely success of radiocarbon dating has been obtained from the Oxford University Research Laboratory (Paul Pettit) and from the Ancient Monuments Laboratory (Alex Bayliss). AMS dates could be expected to be accurate to within a 150 year range (95% probability), while the predicted accuracy for High and Normal Precision is as follows (also 95% probability):

Predicted date	High precision	Normal precision
800 BC	within 50 years	within 50 years
600 BC	760-520 BC	800-400 BC
400 BC	410-380 BC	750-200 BC
200 BC	350-160 BC	370-110 BC
50 BC	100 BC - AD 3	190 BC - AD 50
0	40 BC - AD 60	185 BC - AD 60
AD 50	0 - AD 90	100 BC - 120 AD
AD 200	AD 110 - AD 220	AD 50 - AD 330

It can be seen from the above table that only one of the eight possible scenarios would give an unsatisfactory date for the aims which have been defined, i.e a date range which spans the conquest period.

Comment Some analysis will need to take place first, as dating will result in destruction of all, or significant portions of, the skeletons (see also below). In order to make as much use of the radiocarbon dates as possible, all stratigraphic and pottery dating relating to the burials will be analysed in detail.

Aim (2) To gain as much information as possible on the humans and animals selected for burial.

Method Detailed analysis of animal skeletons for metric, ageing, butchery and pathology information (see Section 13). The poor condition of the human bone means that further analysis is not worthwhile, and this will be published

at the same level of detail as is present in this assessment report.

Comment Following discussion with Adrienne Powell of the Centre for Human Ecology (Southampton) it was agreed that the skeletons would be re-examined at Southampton, and bones (e.g. those with no pathology) selected for dating. Further detailed analysis would be undertaken after dating results had been obtained, but only if the dating programme achieved its aims. Otherwise, a shorter report will be prepared with only limited further analysis.

16.6 Regional

- Aim To compare the general characteristics of the prehistoric and Roman elements of the site with other excavated sites in the region. In addition to identifying similarities and differences, this work may help in interpretation of the Stratford Market site.
- Method Research into published and unpublished excavations within the region.
- Comment Cunliffe (1991) discusses Iron Age settlement patterns in the Thames Basin, concluding that it is as yet poorly characterised. However, a recent conference paper on the region by Pamela Greenwood of the Newham Museum Service showed the large body of unpublished data which exists. In addition, the work on the very large site at Mucking will be of relevance to the Iron Age and Roman period, though again this is not yet published in detail (Clark 1993). A further important point to be considered is that the site was close to the Roman city of London, and could have been affected by the fortunes of the city (e.g. Perring 1991: 83).

17 Revised research aims - the medieval and later evidence

The aims and methods given below are, of necessity, somewhat tentative. This is because the Newham Museum Service has carried out large-scale excavations at Stratford Langthorne Abbey, and the results of these excavations have yet to be assessed. This has been taken into account as far as is possible, but it must be borne in mind that any of the aims and methods may change in the light of future work.

17.1 Medieval and post-dissolution

excavations.

Aim To integrate the results of the assessment with the results from the major excavations carried out by the Newham Museums Service. Section 5.3 sets out how the evaluation results may be able to contribute to the understanding of the layout of the main claustral complex, and of more peripheral areas. The results may also be of use in elucidating the story of the dissolution and post-dissolution periods. A secondary aim is the integration of finds from the evaluation with those from the NMS

Method It is clear that the exact method of achieving these aims cannot yet be stated,

and will evolve from the post-excavation assessment of the NMS excavations. NMS will certainly require access to the OAU assessment report, and some time for liaison will also be needed.

Comment As a suggestion, the task list also includes timings for producing an outline account of the evaluation work and results, up to and including drawing briefs, for inclusion in an eventual publication. This would certainly seem to be a reasonable solution for the later evidence (see below) but may not be the best means of integration for the evidence relating directly to the Abbey.

17.2 1760 to modern

- Aim To provide an outline account of the later (industrial) history of the site.
- Method Publication of the archaeological results, at a level of detail similar to that contained in this report, and combined with documentary evidence.
- Comment This is only a suggested method, and depends on the results of NMS excavations. The potential for further detailed documentary research in relation to the OAU fieldwork results is seen as poor, but NMS may wish to commission such work to answer broader research questions.

The disappointing results from the Trench 39 excavation on the silkworks means that they are better combined with the other evidence of industrial activity in a general account, rather than being analysed and published in any further detail on its own.

18 Finds and palaeoenvironmental evidence

Proposals for the level of analysis on some classes of material have already been set out in relation to the various general aims (Sections 16, 17). This section gives the proposal for all types of material, together with a brief discussion where required. Analytical work already carried out for this assessment, and not proposed for publication below, will be retained in archive for reference purposes.

18.1 Prehistoric and Roman pottery

Publication at a similar level of detail to that given in this report, with the following exceptions. Firstly, the section on regional parallels (for prehistoric assemblage only) will be strengthened by comparison with published and unpublished assemblages, the latter to include collections held at the Newham Museum Service, and from the Mucking project. Secondly, the basis for the division of the site into broad phases (e.g. late pre-Roman Iron Age; later 1st to 2nd century) will be set out in detail and related to appearance/disappearance of particular pottery types. Illustration of pottery not required.

18.2 Medieval and post-medieval pottery

Detailed proposals for this material cannot be formulated before the assessment of the NMS excavations has been carried out. In general, it is possible that the medieval and dissolution period may require further analysis in conjunction with the NMS assemblage, but that the spot-dating and assessment work will suffice for the later wares. The recommendations made by Meddens (Section 8) are not considered appropriate now that the potential of the site data has been shown to be low.

18.3 Small finds

The only small finds of note from the prehistoric and Roman site were the three Roman coins and no further analysis is proposed. A short selective catalogue will be published, which will include the coins, and this will be accompanied by a brief discussion. The small finds from later periods add nothing to the interpretation of the site, and the information will be archived without any further analysis.

18.4 Flint

Quantify burnt flint and scan for worked flint, followed by spatial analysis of worked flint. Results of this to be incorporated with analysis included in this report to form basic publication of flint assemblage. Twelve pieces of flint to be illustrated.

18.5 Iron

Only six objects were recovered from prehistoric and Roman contexts, with only one of these, a possible billhook, being of intrinsic interest. A selective catalogue with a short discussion will be sufficient for publication.

Five objects, one medieval and four from the silk-printing works, will be X-rayed. They may require a brief description and drawing.

18.6 Human bone

No further detailed analysis is proposed. The short description/discussion, giving the information as presented in this report, can be integrated with the general discussion of human and animal burial.

18.7 Animal bone

Further work on the bone assemblage as a whole was not proposed by the FRU, with the exception of the Iron Age material, 'if it can be clearly separated from the Roman material' (see 13). Given the problems with dating generally, and with residuality in particular, this will clearly not be the case. Further analysis for the prehistoric and Roman site is therefore proposed only in the case of the animal burials (see 16.5).

Horse bones from a 17th-century ditch in Trench 12, including a complete skeleton, are of intrinsic interest, particularly because of the pathology present. Analysis and publication in detail is not recommended, in that the context of the find cannot be well understood, but the Faunal Remains Unit have offered a free archive report on the skeletons, subject to them

being donated to the FRU reference collection. It is recommended that this offer be accepted. A summary of the main findings of the archive report can then be included in the account of the later archaeology.

18.8 Charred plant remains

The results of the assessment will be integrated into the general description/discussion of the site. No further analysis is proposed due to the generally poor preservation.

18.9 Geoarchaeology

The assessment results will be integrated with the general description/discussion of the site. Further analysis will consist only of micromorphological analysis on samples taken from the same section as was analysed in the assessment (see 16.4).

19 Task List

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Task No	Research Aims	Task	performed by	Days
01	-	Unit management	S Palmer	3
02	-	PX management	D Jennings	3
03	-	Project management	D Wilkinson	12
04	-	Drawing office management	P Hughes	1
05	-	Project monitoring	I Scott	6
Prehistori	c and Roman	site		
06	16.6	Library research and NMS visits	D Wilkinson	7
07	18	Site data: preparing Phasing summary for Key Specialists	D Wilkinson	3
08	-	Site data: Preparing illustrations	Illustrator	2
09	18	Finds: management and selection	D Wilkinson L Allen	1
10	16.5; 18.7	Finds: animal bone record and select bones for dating	FRU	8
11	16.5	Finds: High precision C14 dating	Belfast	[]
12	16.5	Finds: Standard C14 dating	Belfast or Oxford	[]
13	16.2; 16.3; 18.1	Finds: later prehistoric and RB pot	C Going	10
14	18.6	Finds: human bone - select bones for dating	A Boyle	0.5
15	16.2; 16.3	Site data: revised site narrative and analysis	D Wilkinson	4
16	16.2; 16.3; 18.1	Site data: database entry	technician	3
17	18	Site data: preparing revised Phasing summary for Specialists	D Wilkinson	2
18	18.3	Finds: Small Finds (cu alloy & bone objects) catalogue	L Allen	1
19	18.5	Finds: Fe - x-ray	L Allen	0.5
20	18.5	Finds Fe report	I R Scott	1
21	18.4	Finds: Flint	P Bradley	4 '

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Task No	Research Aims	Task	performed by	Days
22	18.6	Finds: Human bone - report	A Boyle	0.5
23	18.7; 16.5	Finds: animal bone - report	FRU	14
24	18	Finds: Illustration	Illustrator	6
25	16.4; 18.9	Environmental: micromorphological analysis	GSF	[10]
26	16.4	Site: stratigraphic analysis	Technician D Wilkinson	20 8
27	16.2; 16.3	Site: digitizing plans	Technician	22
28	16.2; 16.3; 16.4	Site: recast site description	D Wilkinson	5
29	16.4	Site: recast vertical sequence	Technician	5
30	16.5	Site: description and discussion of human and animal burials	D Wilkinson	4
31	-	Site: drawing briefs	D Wilkinson Technician	5 5
32	-	Site: Illustrations	Illustrator	16.5
33	-	Report: Assemble specialist reports and site description	D Wilkinson Technician	2 2
34	16.6	Report: Discussion	D Wilkinson	10
35	1-16 N	Editing	I R Scott	4
Medieval	and post-Med	ieval site		
36	18	Site data: preparing Phasing summary for Specialists	D Wilkinson	3
37	18	Finds: management	L Allen	1
38	17	Site data: revised site narrative and analysis	D Wilkinson	4
39	17	Site data: database entry	Technician	2
40	17	Site: stratigraphic analysis	D Wilkinson	4
41	17	Site: recast site description	D Wilkinson	3
42	17	Site: drawing briefs	D Wilkinson	2

26-30.5

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Task No	Research Aims	Task	performed by	Days
Archive p	reparation and	d deposition	en l'arth i	
43	-	Archive preparation	D Wilkinson	4
44	- Sect	Archive indexing	N Scott	2

Note: No decision has been made regarding the publication of the archaeological fieldwork undertaken on behalf of the JLE team. The above task list includes all work necessary to prepare a manuscript and supporting illustrations for publication. It is assumed that before the final report text and drawings are prepared that a decision on the publication format will have been taken and that the final manuscript and illustrations will then conform in terms of style and format. No tasks have been included for taking the report through to publication (proof reading, corrections, distribution to specialists, etc).

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APPENDIX I EXAMPLES OF SPOT-DATING LISTS FOR MEDIEVAL AND POST-MEDIEVAL POTTERY

Codes and values used in the appended database reports

Context numbers

Where the context number 0 is used this refers to unstratified finds.

Fabric codes

The fabric codes are alphabetic and reflect codes in common use by Molas and Newham Museum service at the time of writing (1996). For reason of clarity a list of the codes used here is provided below.

BADO	Badorf Ware		
BORD	Border Ware		
BORDG	Border Ware Green Glazed		
BORDY	Border Ware Yellow Glazed		
CBW	Coarse Border Ware		
CREA	Cream Ware		
CHEAR	Cheam Red Ware		
CHIN	Chinese Porcelain		
DUTR	Dutch Red Earthen Ware		
EMFL	Early Medieval Flinty Ware		
EMS	Early Medieval Sandy Ware		
EMSH	Early Medieval Shelly Ware		
EMSS	Early Medieval Shelly and Sandy		
	Ware		
ENGS	English Stone Ware		
ENPO	English Porcelain		
FREC	Frechen Stone Ware		
GUYS	Guys Ware		
GUYSG	Guys Green Glazed slipped Ware		
GUYSY	Guys Yellow Glazed slipped Ware		
HEDF	Hedingham Ware (Fine)		
JACK	Jackfield Ware		
KING	Kingston Ware		
KOLS	Cologne type Stone Ware		
LANG	Langerwehe type Stone Ware		
LMMG	Late Medieval Mill Green Type		
LMSA	Late Medieval Sandy Ware		
LMSU	Late Medieval Slipped Ware no		
	Glaze		
LSS	Late Saxon Shelly Ware		
LOND	London type Ware		
MART	Martincamp Flask Stone Ware		
MG	Mill Green War		

MGREY	Medieval Grey Sandy Ware		
MOCH	Mocha Ware		
MS	Medieval Sandy Ware		
NOTS	Nots/Derby Stone Ware		
PEAR	Pearl Ware		
PMBL	Post-medieval Black Glazed Earthen		
	Ware		
PMR	Post-medieval Red Ware		
PMRR	Post-medieval Red Ware Reduced		
PMRU	Post Medieval Red Ware Unglazed		
RBOL	Red Border Ware		
REAR	Rearen Type Stone Ware		
SIEG	Siegburg Ware		
SPEC	Specle Glazed Ware		
SSW	Sandy Shelly Ware		
STSG	Staffordshire Brown Slipped Ware		
SUND	Sunderland Ware		
SWSG	Staffordshire White Salt Glazed Stone		
	Ware		
TGW	Tin Glazed Ware		
TPW	Transfer Printed Ware		
TR	Tudor Red Ware		
VIC	Victorian China		
*	Not Identified		

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The vessel shape codes

BOWL	Bowl		
BOTT	Bottle		
BUCK	Bucket shape		
CHPO	Chamber pot		
COFC	Coffee can		
COOK	Cooking pot		
CUPA	Cup		
DISD	Dish Deep		
DISH	Dish		
DMUG	Drinking mug		
JAR	Jar		
JUG	Jug.		
PKIN	Pipkin		
PLAT	Plate		
PROP	Kiln furniture		
PLPT	Plant pot		
RETO	Retort/receiver		
SAUC	Saucer		
SKIL	Skillet		
TANK	Tankard		
TAP	Т	a	р

TEAB	Tea bowl
TEAC	Tea cup
TYG	Tyg
*	Not identified
Pariod	
EMED	Early medieval
LMED	Late medieval
MED	Medieval
PMED	Post-medieval
ROMAN	Roman
*	Not identified

Date Range

1

l

The date range is expressed in years AD. Where 0 - 0 is the date range indicated, this reflects missing values where no accurate date range is available.

Number of fragments

The variable indicates the number of sherds making up the specific record.

	CONTEXT	FABRIC	SHAPE	PERIOD	EARLIEST	LATEST	NUMBER OF FRAC
HWOP91	.00	GUYSY	DISH	PMED	1550	1650	1.00
HWOP91	.00	LOND	*	MED	1150	1350	1.00
HWOP91	.00	LOND	BOWL	MED	1080	1350	1.00
HWOP91	.00	PMRU	*	PMED	1600	1800	1.00
HWOP91	2.00	ENGS	*	PMED	1670	1900	1.00
HWOP91	2.00	MOCH	*	PMED	1760	1900	2.00
HWOP91	2.00	PEAR	PLAT	PMED	1800	1900	1.00
HWOP91	2.00	TPW	PLAT	PMED	1780	1900	4.00
HWOP91	2.00	TPW	PLAT	PMED	1780	1900	1.00
HWOP91	2.00	TPW	PLAT	PMED	1780	1900	1.00
HWOP91	2.00	TPW	PLAT	PMED	1780	1900	1.00
HWOP91	109.00	PMR	*	PMED	1600	_1800	1.00
HWOP91	109.00	PMRU	*	PMED	1600	1800	1.00
HWOP91	201.00	PMRU	BOWL	PMED	1600	1800	2.00
HWOP91	201.00	PMRU	BOWL	PMED	1600	1800	1.00
HWOP91	210.00	TPW	*	PMED	1780	1900	1.00
HWOP91	210.00	VIC	*	PMED	1837	1901	2.00
HWOP91	210.00	*	*	*	0	0	1.00
HWOP91	304.00	VIC	PLAT	PMED	1837	1901	1.00
HWOP91	314.00	MG	*	MED	1270	1350	1.00
HWOP91	314.00	MGREY	COOK	MED	1200	1400	1.00
HWOP91	314.00	MGREY	*	MED	1200	1400	1.00
HWOP91	314.00	MGREY	*	MED	1200	-1400	3.00
HWOP91	314.00	*	*	*	0	0	1.00
HWOP91	509.00	PEAR	PLAT	PMED	1800	1900	1.00
HWOP91	509.00	TPW	PLAT	PMED	1780	1900	1.00
HWOP91	510.00	TPW	*	PMED	1780	1900	1.00
HWOP91	511.00	TPW	*	PMED	1780	1900	1.00
HWOP91	512.00	PMR	*	PMED	1600	1800	1.00
HWOP91	517.00	TPW	*	PMED	1780	1900	2.00
HWOP91	517.00	VIC	PLAT	PMED	1837	1900	1.00
HWOP91	518.00	CREA	*	PMED	1760 .	1900	2.00
HWOP91	518.00	CREA	JUG	PMED	1760	1900	4.00
HWOP91	518.00	ENPO	*	PMED	1700	1900	1.00
HWOP91	518.00	PMRU	*	PMED	1600	1800	5.00
HWOP91	518.00	TPW	*	PMED	1780	1900	5.00
HWOP91	600.00	CREA	*	PMED	1760	1900	1.00
HWOP91	600.00	ENĠS	*	PMED	1670	1900	3.00
HWOP91	600.00	ENPO	COFC	PMED	1700	1900	5.00
HWOP91	600.00	MOCH	BOWL	PMED	1760	1900	3.00
HWOP91	600.00	MOCH	*	PMED	1760	1900	5.00
HWOP91	600.00	MOCH	* *	PMED	1760	1900	2.00
HWOP91	600.00	MOCH	*	PMED	1760	1900	1.00
HWOP91	600.00	PMR	DISD	PMED	1600	1800	1.00
HWOP91	600.00	PMR	*	PMED	1600	1800	2.00
HWOP91	600.00	PMR	*	PMED	1600	1800	1.00
HWOP91	600.00	TPW	*	PMED	1780	1900	2.00
HWOP91	600.00	TPW	PLAT	PMED	1780	1900	1.00
HWOP91	600.00	TPW	*	PMED	1780	1900	1.00
HWOP91	600.00	TPW	*	PMED	1780	1900	1.00
HWOPOI	600.00		*	PMED	1780	1900	1.00
HWOPOI	600.00		*	PMED	1837	1901	2.00
HWOPOI	601.00	ENGS	IUG	PMED	1800	1900	1.00
	601.00	ENCE	TAD	PMED	1800	1900	1.00

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Table 8.3								
SITECODE	CONTEXT	FABRIC	SHAPE	PERIOD		LATEST	NUMBERFRG	COMMENTS
					EARLIEST			
HWOP91	.00	GUYSY	DISH	PMED	1550	1650	1.00	BASE, FLAT.
HWOP91	.00	LOND	*	MED	1150	1350	1.00	
HWOP91	.00	LOND	BOWL	MED	1080	1350	1.00	RIM, SHARPLY EVERTED, CONTEXT
	TR 21 U/S.							001112111
HWOP91	.00	PMRU	*	PMED	1600	1800	1.00	
HWOP91	2.00	ENGS	*	PMED	1670	1900	1.00	
HWOP91	2.00	MOCH	*	PMED	1760	1900	2.00	
HWOP91	2.00	PEAR	PLAT	PMED	1800	1900	1.00	RIM.
HWOP91	2.00	TPW	PLAT	PMED	1780	1900	4.00	RIM, INTERIOR BLUE DECORATION
HWOP91	2.00	TPW	PLAT	PMED	1780	1900	1.00	INTERIOR BLUE DECORATION.
HWOP91	2.00	TPW	PLAT	PMED	1780	1900	1.00	INTERIOR PURPLE DECORATION.
HWOP91	2.00	TPW	PLAT	PMED	1780	1900	1.00	BLUE DECORATION.
HWOP91	109.00	PMR	*	PMED	1600	1800	1.00	BASE, FLAT, INTERIOR BROWN
	GLAZE.							
HWOP91	109.00	PMRU	*	PMED	1600	1800	1.00	
HWOP91	201.00	PMRU	BOWL	PMED	1600	1800	2.00	
HWOP91	201.00	PMRU .	BOWL	PMED	1600	1800	1.00	RIM, EXTERIOR THICKENING.
HWOP91	210.00	TPW	*	PMED	1780	1900	1.00	INTERIOR BLUE DECORATION.
HWOP91	210.00	VIC	*	PMED	1837	1901	2.00	
HWOP91	210.00	*	*	*	0	0	1.00	
HWOP91	304.00	VIC	PLAT	PMED	1837	1901	1.00	
HWOP91	314.00	MG	*	MED	1270	1350	1.00	
HWOP91	314.00	MGREY	COOK	MED	1200	1400	1.00	SHARPLY EVERTED RIM.
HWOP91	314.00	MGREY	*	MED	1200	1400	1.00	RIM.
HWOP91	314.00	MGREY	*	MED	1200	1400	3.00	
HWOP91	314.00	*	*	*	0	0	1.00	
HWOP91	509.00	PEAR	PLAT	PMED	1800	1900	1.00	RIM.

Table 8.3

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RESULTS AND METHODOLOGY USED FOR THE TOTAL PHOSPHATE ANALYSIS

METHODOLOGY

Sub-samples from core samples 9 and 7 were targeted for the phosphate analysis. These 2 cores crossed the boundary between the fine grained units and the sands which overlie them. The sub-samples were heated to 600°C for ½ hour to mineralise any organic phosphate to inorganic phosphate. The residue was washed into a beaker with nitric acid and evaporated to dryness then moistened with nitric acid and distilled water and again evaporated to dryness. The product was then filtered, made up to 50ml with distilled water and an aliquot of 10ml transferred into a 25ml flask. 2 drops of 2.4 dinitrophenol indicator was added. Then dilute sodium hydroxide added drop by drop until the solution turns yellow. The solution is then decolourised by adding dilute nitric acid. Then 2.5ml of 22% nitric acid and 5ml of vanadomolybolate reagent was added. This solution was then diluted to 25ml and measured in a spectro-photometer at 470nm and calculated from a calibration curve to give a Total Phosphate determination (i.e. organic and inorganic phosphate) in parts per million (ppm).

Monolith M02

Depth in cm below the top of the monolith (cm)	Depth in the section below the top of context 7001 (metres)	Total Phosphate content (ppm)
12-13	0.22-0.33	1360
19-20	0.29-0.30	1050
26-27	0.36-0.37	1350
34-35	0.44-0.45	1190
41-42	0.51-0.52	880
48-49	0.58-0.59	1420

Monolith M03

Depth in cm below the top of the monolith (cm)	Depth in the section below the top of context 7001 (metres)	Total Phosphate content (ppm)
2-3	0.52-0.53	1640
10-11	0.60-0.61	970
19-20	0.69-0.70	2740
29-30	0.79-0.80	1670
39-40	0.89-0.90	2710
49-50	0.99-1.00	3210



Figure 1. Location map, extent of site, watercourses





3 m.

fill of archaeological



Figure 6: Probable medieval walls within Tredegar Warehouse (for location see Figure 2).

Trench 22 - part of east section



Figure 7.

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printing works).



Figure 9: Trenches 32 and 39 located on 1869 O.S.map



Figure 10: Site stratigraphy from trench 70, section 201



Comparison of stratigraphy recorded in the field and the laboratory; also showing mass specific magnetic susceptibility and total phosphate content data



0-3/6cm VOID

3/6-22cm 10YR 4/2 dark greyish brown poorly sorted silty fine to medium sand with frequent sub-rounded to sub-angular, high sphericity clasts up to approximately 2.3cm mean diameter, matrix supported. The clasts are composed of quartz, tlint and ceramic building material. The sand fraction is composed of sub-rounded high sphericity grains. It is dominated by quartz with ceramic building material and slag. No reaction with HCl and the lower boundary is clear and smooth.

----- Clear smooth -----

22-32cm 10YR 3/2 very dark greyish brown moderately sorted silty sand with flint clasts. The sand fraction is dominated by sub-rounded high sphericity quartz grains. The sand fraction also contains ceramic building material. No reaction with HC1. There is some blue flecking within the monolith (vivianite). The unit also contains flint clasts sub-rounded to sub-angular, low sphericity and matrix supported. The lower boundary is clear and smooth.

----- Clear smooth -----

32-50cm 10YR 3/2 very dark greyish brown moderately sorted silty sand. The sand fraction is dominated by sub-rounded, high sphericity quartz sand grains with some ceramic building material. Vivianite is present and there is no reaction between the sediment and HC1. There are circular hollows up to 0.5cm diameter extending into the unit which may represent root canals.

F	FLINT
H	ROOT CANAL
V	VIVIANITE
	SAND
	SILT
	CERAMIC
CBM	BUILDING
	MATERIAL

Scale 1:2

Described by: VW

Date:7/2/96

GSF description of Monolith Sample MO2

Figure 12.



0-34cm 10YR 3/2 very dark greyish brown moderately sorted silty sand with gravel clasts up to approximately 0.5cm mean diameter sub-angular to sub-rounded, low sphericity. The sand fraction is composed of sub-rounded, high sphericity quartz grains. Viviante is present throughout the unit as isolated granular aggregates. There is no reaction with HCL.

----- Clear smooth -----

34-50cm Mottling is present within the unit with 10YR 3/2 very dark greyish brown and 10YR 4/4 dark yellowish brown moderately to poorly sorted silty sand. There is an increase in the sand content down through the unit. Sub-angular to sub-rounded, low sphericity clasts are present within the unit. The clasts are composed of flint (red and white). The sand traction is composed of sub-rounded, high sphericity quartz grains and there is no reaction with HC1.

F	FLINT
Н	ROOT CANAL
V	VIVIANITE
	SAND
	SILT
	CERAMIC
CBM	BUILDING
	MATERIAL



Described by VW

Date: 7/2/96

GSF description of Monolith Sample MO3