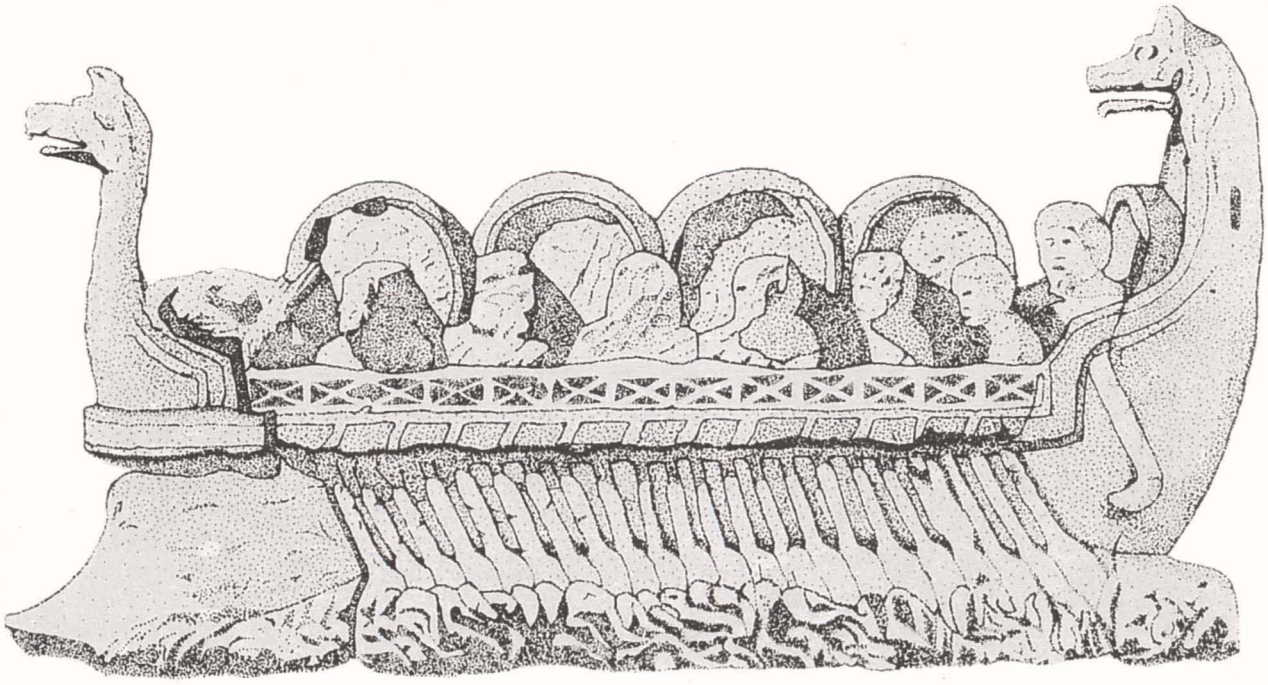
SUMMERTON WAY,
Thamesmead,
London SE28

London Borough of Bexley

A Post-Excavation Assessment



Museum of London Archaeology Service
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Thamesmead,
London SE28

London Borough of Bexley

A Post-Excavation Assessment

SITE CODE : SWY 97 AND SNY 97
NGR : TQ 4800 8128

Museum of London Archaeology Service

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Abstract

Excavations were undertaken at Summerton Way, Thamesmead SE28, (TQ48008128) in the London Borough of Bexley by the Museum of London Archaeology Service (MoLAS) between 9th June 1997 and 18th July 1997 (sitecode SWY97). This work was commissioned by CgMs consultants on behalf of their clients Wilcon Homes.

Previous evaluation work undertaken by Pre Construct Archaeology (PCA)(sitecode SNY97) was considered to indicate the presence on the site of deposits of Roman date some of which may have been related to pottery production. As a consequence MoLAS was commissioned to undertake the excavation in advance of construction in two areas totalling c.1000m².

Excavation revealed the presence of peat deposits of prehistoric date sealed by up to 4m of alluvium. Within the alluvial sequence evidence was recovered of field ditches and associated features dating to the late 3rd century to late 4th century.

The exploitation of an area close to the Thames and prone to flooding suggests that the river levels were significantly lower in the late 3rd and 4th centuries. This tends to confirm theories based on previously excavated evidence from the City and Southwark.

The field systems identified on the site may have been centred on a nearby building or settlement, the presence of which is inferred from building material remains recovered during excavation. Pottery and quernstones from Germany may have been imported directly to the site. Variations within the pottery assemblage also indicate some differentiation within the regional trade pattern of London and its hinterland.

Activity on the site apparently continued until the very end of the Roman period and its termination is marked by flood deposits apparently resulting from the breach of river defences.

River levels rose constantly during the post-Roman period and the site returned to marginal marshland with little or no sign of activity in the area predating the 19th century.

This assessment report sets out the results of a preliminary analysis of the results of excavation (including also the data from the evaluation). A dated stratigraphic sequence has been established and is supported by finds and environmental information. The potential of the data and revised Research Aims are also discussed, along with a short consideration of publication potential. It is proposed that the material be presented in two journal articles.

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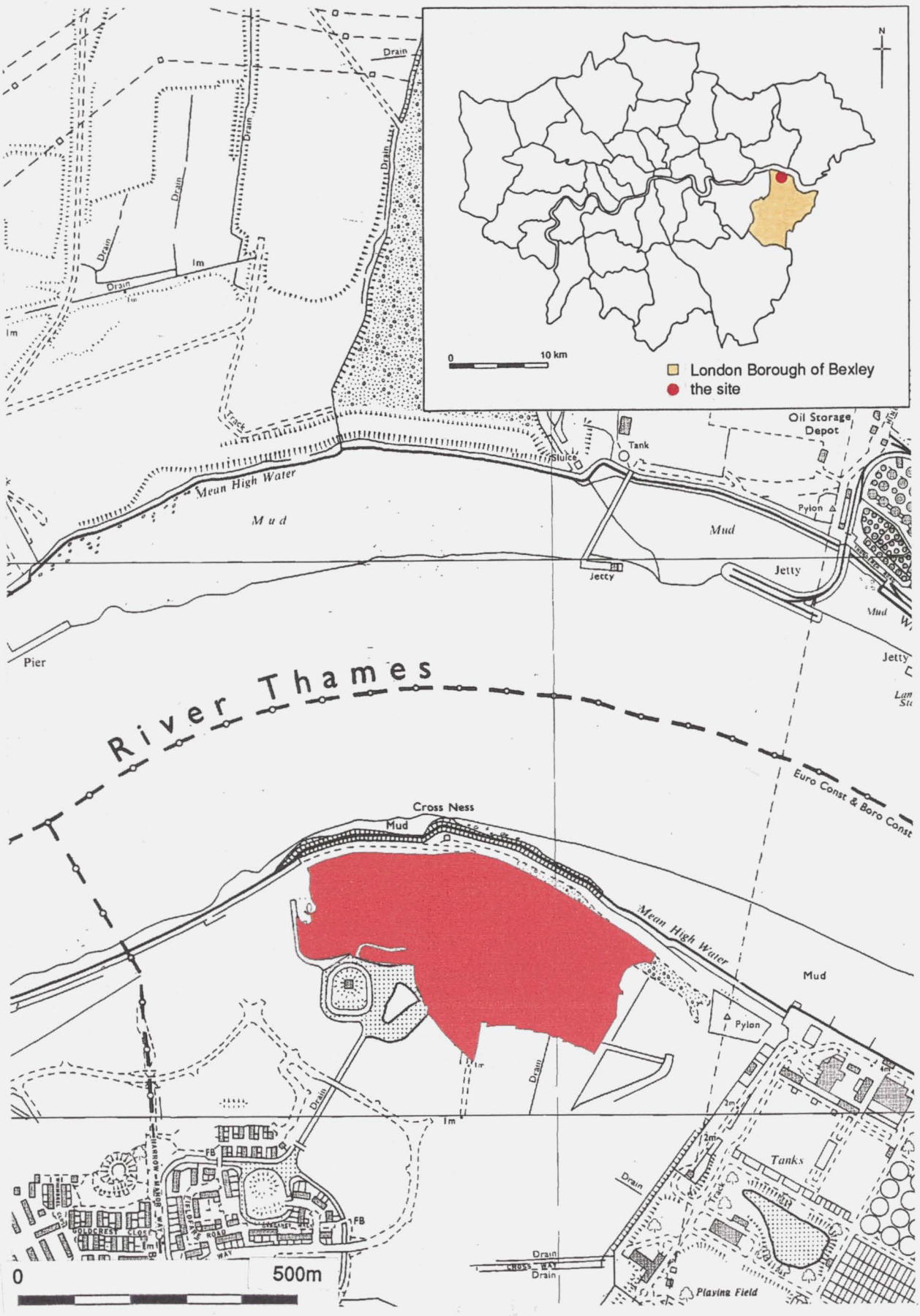

Fig. 1 Site Location

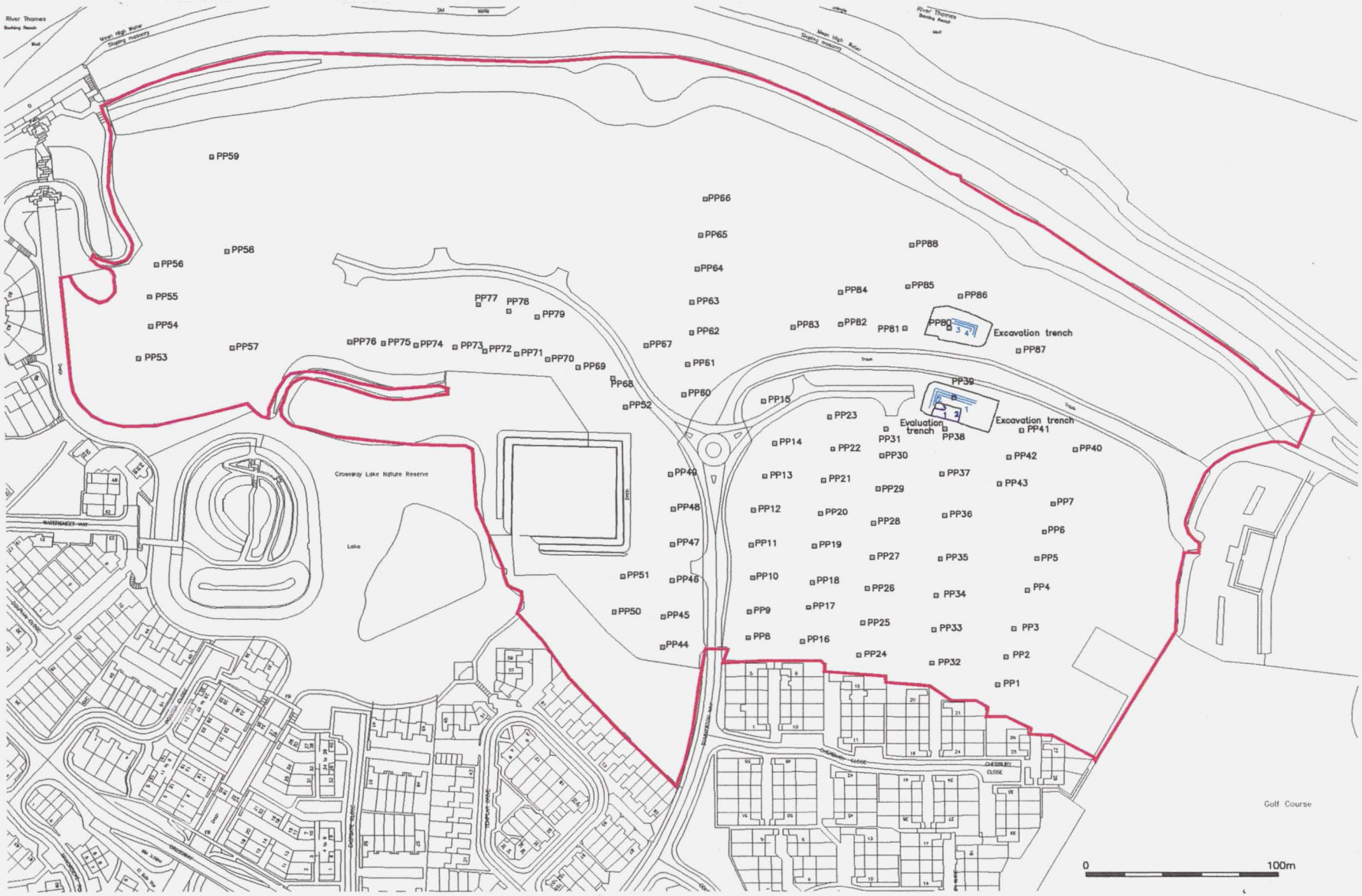

Fig 2 Site Outline showing Areas of Excavation (MoLAS) and Evaluation (PCA)

1.0 Introduction

1.1 Scope of the project

This document forms a post-excavation assessment of the archaeological excavations undertaken at the Wilcon Homes site at Summerton Way, Thamesmead, SE28, London Borough of Bexley (OS national grid reference **TQ48008128**, site code **SWY97**). The excavations were undertaken by the Museum of London Archaeology Service and were commissioned by CgMs Ltd on behalf of the developers of the site, Wilcon Homes and followed on from an evaluation undertaken by Pre Construct Archaeology (site code **SNY97**). This report has been prepared following the criteria laid out in the English Heritage document '*Management of Archaeological Projects*' 2nd edition, 1991 (otherwise referred to as MAP2). As such this report forms an assessment of the potential for analysis of the data collected during the excavations at the aforementioned site by both MoLAS and PCA.

The purpose of an assessment is to evaluate the potential of the collected data to contribute to archaeological knowledge and to identify any further study necessary. (See MAP2 chapter 6 and Appendix 4). The assessment should be a co-ordinated undertaking involving the study of stratigraphic, artefactual and environmental data.

1.2 Circumstances and dates of fieldwork

An archaeological evaluation of the Summerton Way site was undertaken by PCA between 15/1/1997 and 20/2/1997 and consisted of two phases. In the first phase 88 machine dug "prospection pits" were excavated across the site and in the second phase an area excavation was undertaken in a part of the site where observations in the prospection pits had shown there to be a concentration of Roman pottery (see Fig. 2).

In view of the perceived development impact on the archaeological deposits identified by the evaluation, a mitigation strategy was developed which called for area excavation in advance of construction[1]. This excavation was carried out by MoLAS between 9/6/1997 and 18/7/1997 and involved the excavation of two trenches located adjacent to and north of the evaluation trench (see Fig. 2) .

Conditions of work were difficult during both evaluation and excavation phases of fieldwork owing to the considerable depth of made-ground on the site and the volume of ground water encountered. In order to ensure safety, the limits of excavation had to be progressively reduced with depth leading to a considerable reduction in the area available for study at the lowest horizons. Likewise, although it was possible by judicious use of sumps and continuous pumping during working hours to produce a semi-dry working environment it was never possible to prevent any negative features instantly filling with ground water on excavation or to prevent areas of excavation becoming submerged to a depth of up to 1.75m once pumping ceased.This meant that definition of subtle features was difficult to achieve and the number of tasks

[1] see PCA (1997)(2)

potentially achievable within the course of any working day was limited.The requirement for sumps further limited the area available for study.

The difficult working conditions had an additional impact on archaeological recording in that the full depth of cut features was in some cases difficult to define and also in that the constant requirement to clean the working horizon following flooding led to a certain degree of erosion to some of the deposits.

The unstable nature of the made ground - particularly when subjected to ground water flow - imposed limitations on the type of recording possible during excavation of the "prospection pits"[2].

Owing to the extreme depth of made ground, low-grade archaeological deposits were excavated using a 360° tracked excavator while higher grade deposits were cleaned and examined using handtools. The total areas examined by hand at the lowest horizons were -

PCA evaluation - 23m²
MoLAS excavation - North Trench - 60.5m²
South Trench - 142.5m²

Throughout the course of fieldwork monitoring was undertaken by Mr. K.Whittaker of English Heritage for London Borough of Bexley and by Mr.D. Hawkins of CgMs on behalf of Wilcon Homes.

1.3 Summary of post-excavation work

It is recognised in MAP2 that, in order to meet the objectives of the assessment phase, it will be necessary to undertake detailed work on the stratigraphy of archaeological sites in order to provide a framework for the assessment of other categories of material. Consequently post-excavation work on the data from Summerton Way has in this regard followed the recommendations of the MoLAS MAP2 working party (MoLAS, 1994).

In summary, this means that the stratigraphic sequence has been established and checked with the aid of the Bonn Archaeological Statistics Programme Harris Matrix Analysis; individual stratigraphic elements have been associated in sub-groups which represent single identifiable archaeological actions (such as the digging of a pit or the construction of a wall); sub-groups have been associated in groups which represent clusters of contemporary activity. Finally a preliminary attempt has been made to phase the groups and thus allow a chronological description to be made of the development of the site. This analysis has been supported by the production of 1:20 scale plans of the sub-groups which have been digitised in order to allow the production of larger scale plans of groups and phases.

[2] seePCA (1997)(1) for further details

The establishment of a secure stratigraphic sequence has also enabled preliminary work to be undertaken on the finds and environmental assemblages from the site. This material has been assessed to identify its potential for further study. This has additionally allowed a preliminary allocation of date and function to be given to the sub-groups and groups identified during the stratigraphic assessment .

A quantification of all categories of material has been undertaken as part of the assessment in order to allow estimates to be made of the likely length and complexity of future work and the requirements for long term storage.

1.4 Organisation of the report

An assessment report which observes the criteria laid out in MAP2 should be formed of three principal parts:

- a factual summary
- a statement of the archaeological potential of the collected data
- recommendations on the storage and curation of the archive

In this report Sections 1, 2 and 3 provide a general introduction to the project and its antecedents. The factual summary is contained in Sections 4 and 5. The statement of the archaeological potential is contained in Sections 6, 7 and 8. Section 9 contains recommendations for storage and curation

The appendices contain specialist assessment reports in their entirety even though elements of these reports have been incorporated in the main body of the text. In addition Appendix 2 contains the Index of Archaeological Sequence which allows reference to be made between individual contexts and the sub-groups and groups referred to in the Interim Statement of Results.

2.0 Original Research Aims

The original research aims set out in Lawson Price (1996) are supplemented by the revised research aims given in the subsequent excavation specifications (PCA (1997)(2)). The specific research questions which guided the excavation phase were given as :-

RA1 - What was the nature of occupation and /or other activities within the two distinct Roman horizons (*noted during the evaluation*)?

RA2 - What were the circumstances, whether they be environmental, economic, trade or a mixture which enabled or encouraged occupation within this part of the Thames floodplain ?

RAE(3) - What were the circumstances, whether they be environmental, economic, trade or a mixture which ended occupation within this part of the Thames floodplain?

RAE(4) - Is this a pottery production centre and if so what wares were being produced, what fabrics and forms utilised, when and with what distribution?

RA5 - Can the nature, layout and organisation of any industrial processes be identified?

RA6 - Can the occupation, exploitation or management of the site and/or vicinity during the Roman period be identified within the environmental record ?

RA7 Did the location of the site and the primary activities taking place there affect the lifestyle and trade networks of the occupants?

RA8 - Can the site be used to refine our understanding of the dating and the geographical variations in the post-AD 250 marine transgression ?

RA9 - Can a temporary regression be identified and related to the re-occupation of the site ?

RA10 - What are the dates for the series of site occupations and abandonments ?

RA11 - What are the implications for the presently understood trade patterns in local and national terms of the identification of a pottery production site at Thamesmead?

RA12 - With the identification of the nature and date of the Thamesmead site, can our understanding of the Roman archaeological record for this area be further refined?

RA13 - What is the nature and dates of the palaeoenvironmental sequence prior to the Roman period ?

RA14 - Is there any early Saxon occupation/activity on site and is there a break between it and the Roman occupation ?

RA15 - What was the nature and date of Post-Medieval activity on the site?

3.0 Archaeological and Historical Background

The archaeology and history of sites on the margins of the Lower Thames demonstrates the complex inter-relationship between human activity and natural forces. On any particular site the most powerful factor defining the nature and extent of archaeological deposits is likely to be the constant change in relative sea/land levels in the post-glacial period.

The changes have not presented a smooth progression but a series of marine transgressions (periods of relative sea level rise) and regressions (relative sea level drop). Transgressions are marked by deposits of inorganic deposits such as clays and regressions are marked by biogenic deposits such as peat.

Devoy's study of the Lower Thames from Crossness/Dagenham to the Isle of Grain[3] established a sequence of 5 transgressions and 5 regressions, being designated respectively Thames I to V and Tilbury I to V.

The 19th century antiquarian Flaxman Spurrell[4] recognised that the river level had once been lower and that prehistoric and Roman remains might be encountered within the North Kent marshes and it was through his efforts that the first concerted archaeological research was undertaken in the area. In fact much of our understanding of the archaeology of the Thamesmead area still rests on the discoveries of Spurrel and his contemporaries and successors. He observed that " At Crossness some large yews were dug up, and one I saw was 15 inches, and another exceeded 18 inches in diameter" - these were sitting on top of a peat deposit.

3.1 Prehistoric

The earliest post-glacial human activity in the area is of Mesolithic date[5], as suggested by the discovery at Crossness of a bone awl and a flint axe along with similar finds made at Erith and elsewhere in the Bexley area in the 19th and early 20th centuries[6]. Recent excavations at Slocum Close Thamesmead (**SCG93**) *c.*1km SSW of the Summerton Way site uncovered a peat deposit of Mesolithic date[7] *c.*2m thick (with an upper surface at *c.* -2.00m OD). Unfortunately the only artefacts recovered from this deposit were fire cracked flint cobbles thought to be 'pot boilers'. Work in advance of the construction of the Erith/Thamesmead Spinal Road[8] recovered a considerable assemblage of worked flint of probable Late Mesolithic date.

Spurrell records the discovery of a dug-out canoe of Neolithic date[9] during the excavation of a drainage ditch in the Erith marshes near Belvedere *c.*3/4 mile (1.2km) ESE of the Summerton Way site. A polished flint axe and a flint scraper were also

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[3] Devoy (1979)
[4] Spurrell (1885)
[5] *c.*9,000BC to *c.* 4,300BC
[6] see MoLAS (1996)(2)
[7] C14 date of 5210-4590 BC from lower peat horizon
[8] Taylor (1996)
[9] *c.* 4,300BC to *c.* 2,000BC

discovered with the canoe[10], the canoe and its contents laying at *c.*0m OD. Neolithic pottery was also recovered during the course of construction of the Erith / Thamesmead Spine Road.

Devoy identified a peat deposit at Crossness which he characterised as Tilbury III and which dated to the Mesolithic or Neolithic period[11]. An upper peat deposit at Slocum close (as yet undated) may be comparable to this deposit. Peat deposits observed in the course of a geo-archaeological evaluation at Gallions Reach (**GAT96**) were dated to the Neolithic or early Bronze Age[12].

Devoy's work showed that mean high water spring tides have risen to their current levels from a level of *c.* -26.50m OD at the beginning of the Mesolithic period. The discovery of Mesolithic/Neolithic peats and a Neolithic canoe in the area have potentially interesting implications for the speed at which the present day margins of the Thames became inundated.

Bronze Age[13] finds from the vicinity include metalwork and pottery from Abbey Wood and Belvedere with barrows also recorded at Abbey Wood and Belvedere[14]. That these finds are concentrated on the higher ground to the south perhaps suggests that the river margins had become too wet to allow more than temporary exploitation. Timber trackways of this date have been excavated in Greenwich and Rainham.

Iron Age[15] finds are far from common in the London region as a whole and the area of the site provides no exception. The sole confirmed find of this date being a gold coin (a Type A2 uninscribed stater) from the Plumstead Marshes[16].

3.2 Roman

The majority of finds of Roman date[17] discovered in the vicinity of Bexley are associated with the line of the road running along the high ground to the south of the Summerton Way site. This road (Margary Route 1c) commonly known as Watling Street ran through Rochester and Dartford and then via Shooters Hill to London.

However Spurrell noted remains in the marshes just to the east of the site .... *"When the southern outfall works were being dug twenty years ago* (1865) *at Crossness, a very exposed situation, I saw much Roman pottery, mortar, tiles, rubbish and portions of wood, lying at about 9 feet below the surface (which was there at OD 5 feet)*(i.e. c.-1.20m OD) *on the upper part of a layer of peat, which showed unmistakably that hazel and birches were growing on it, while moss, etc., covered the surface."* ...

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[10] Spurrell (1885)
[11] Devoy (1979) - two C14 samples were obtained which when calibrated give dates of 4680-4350BC and 3050-2500BC
[12] MoLAS (1997)
[13] *c.*2,000BC to 650BC
[14] Spurrel (1889)
[15] *c.*650BC to AD43
[16] Spurrel (1889) ?
[17] AD43 to AD410

Spurrell also noted the presence of animal bones, snail and oyster shells and an apparent 'cinerary urn' containing bones.

Whilst these observations are capable of sustaining more than one interpretation, when taken with the results of recent excavations at Summerton Way they are highly suggestive of the presence nearby of a building or settlement of Roman date.

The presence of such finds in the marshes at the margins of the Thames prompts an enquiry into the predicted river level during the Roman period. Devoys work on the Thames estuary is supplemented, for this period, by excavations undertaken further upstream in the City and Southwark[18]. The evidence from central London suggests that in the 1st century AD the river levels did not commonly rise above 1.50m OD and the low tide level lay below 0mOD. From the late 1st century until (probably) the mid 3rd century river levels then dropped. At the end of the 2nd century the river level in central London probably did not exceed -0.50m OD and at low tide lay below -2.0m OD.

In the absence of comparable data it is not possible to make predictions about the river levels in the estuary with similar chronological precision. Present day Highest Astronomical Tide (HAT) at London Bridge is 0.70m higher than at Tilbury and 1.60m higher than at Southend[19]. Whilst these figures do not allow a direct conclusion to made be made about the comparative HAT levels in central London and the inner or outer estuary they do suggest that the HAT at Crossness is likely to have been markedly lower than that at London Bridge.

The general conclusions that can be reached from the foregoing discussion are that for a substantial part of the Roman period land on the margins of the inner Thames estuary which lay below 0m OD was either mudflat or dry ground and that the optimum conditions for the exploitation of this land occurred in the late 2nd century or early 3rd century. The date at which these conditions applied may be assumed to vary dependant on location within the estuary - sites in the outer reaches such as Summerton Way may be affected later than those in the vicinity of the City and Southwark.

The date at which sea levels began to rise again is not clear - C14 dates from peat deposits at Mar Dyke, Essex, suggest that intermittently dry conditions applied until the early 6th century in some parts of the inner estuary.

3.3 Saxon and Medieval

Finds of Saxon and medieval date[20] are scarce from the vicinity of the site. The most substantial remains are those of Lesnes Abbey (founded *c.*1179), a relatively poorly-endowed Arrouaisian (later Augustinian) house. The low-lying ground at the margins of the river are known from documentary sources to have been marshland which was

[18] Brigham (1990) and Milne (1983)
[19] Milne (1983)
[20] *c.*AD410 to 1485

at least in part owned and exploited by the Abbey. Periodic attempts were made at 'inning' - enclosing and draining - the marshland, none of which seem to have been particularly successful.

3.4 Post-medieval

Following the dissolution of Lesnes Abbey in the 16th century the principal determining feature in the topographical development of the Thamesmead marshes was the development and expansion of the Arsenal at Woolwich. The marshland to the east of the arsenal was gradually absorbed during the course of the 18th and 19th centuries for use as ranges, stores and factories. Andrews, Dury and Herbert's map of 1769 shows gunpowder stores to both the east and west of the Summerton Way site. The site itself formed part of an ammunition factory by the early 20th century, and continued as such until 1973.

4.0 Summary of the Site Archive and Work Carried out for the Assessment

4.1 Stratigraphic Archive

The stratigraphic archive incorporates the drawn and written records of both evaluation (SNY 97) and excavation (SWY 97) phases of work at Summerton Way. Contexts were sequentially numbered within each sitecode. The contexts from the evaluation phase include 10 which were allocated as 'finds numbers' for material recovered from the prospection pits. The site stratigraphic archive consists of :-

SNY 97 (PCA Evaluation)

52 Context sheets
1 Context register sheet
39 plan sheets with 1:20 plans on A4 film
1 Sheet with registers of sections, plans and boreholes
3 Sections at 1:10 on 13 sheets A4 film
1 Copy (2 sections) site survey A0 paper
1 Sheet showing site matrix (annotated)
10 Transparencies (mounted)
1 Sheet (13 images) B/W contact prints plus negatives
1 Copy interim report of evaluation
2 disks containing computer files of registers, interim report, matrix

SWY 97 (MoLAS Excavation)

97 Context sheets
5 Context register sheets
102 plan sheets with 1:20 plans on A4 film
1 plan sheet with 1:20 plan on A1 film
3 plan sheets with 1:50 plans on A4 film
1 section on 1 sheet of A4 film
3 sections on 2 sheets A1 film
1 Annotated matrix
2 Photographic record sheets
36 Transparencies (mounted)
6 Sheets (59 images) B/W contact prints plus negatives

The stratigraphic data has been checked and brought up to archive level for both SNY 97 and SWY 97. A Harris Matrix has been constructed for both phases of work and these have been analysed using the Bonn Archaeological Statistics Programme Harris Matrix Analysis (see Appendix 2) . Indices of the archaeological archive (Index 2) have been created for both phases and incorporated into the MoLAS Oracle database.

Index 3 (subgroup and group) information has been entered into the Oracle database. The contexts have been placed into sub-groups and groups and a subgroups matrix compiled with spot dates. Stratigraphic data from the two phases has been grouped separately and correspondences noted at phase level, the group numbering is sequential with groups **1** to **7** being assigned to **SWY 97** and groups **8** to **14** being assigned to **SNY 97**. Sub-group and group information has been tabulated and is presented at Appendix 1, across-site phases were identified and discussed and a site-wide landuse diagram formulated. Selected sub-groups have been digitised (usually cut features, structural features and selected deposits) and further formulated into group and phase plans. Preliminary finds and environmental data has been provisionally integrated into the stratigraphic assessment.

4.2 Finds Archive

SNY 97 (PCA Evaluation)

2 Boxes Building Material
1 Registered Find
5 Boxes of Roman Pottery

SWY 97 (MoLAS Excavation)

1 Box of Building Material
19 Registered Finds
13 Boxes of Roman Pottery

The building material from both sites has been recorded using standard MoLAS recording forms. Three boxes of building material were retained and the remainder, amounting to approximately three large bags, discarded. The registered finds have been accessioned according to the MoLAS system[21] and those from SWY97 have been entered onto the MoLAS Oracle database. The Roman pottery from both sites has been spot dated using standard MoLAS methods and the resulting records have been computerised. (For further details see Appendix 3)

4.3 Environmental Archive

SNY 97 (PCA Evaluation)

1.48kg Animal Bone
12 flots
* monoliths

SWY 97 (MoLAS Excavation)

2.39kg Animal Bone

[21] See MoL, 1987 Finds Procedures Manual

17 flots
9 Monolith Samples

All hand collected and sieved animal bone from both sites was scanned and recorded using standard MoLAS methods. All of the flots from the bulk samples from SWY97 and 5 flots from SNY97 samples were scanned for botanical remains and recorded using standard MoLAS methods. The monolith samples from SWY97 were cleaned and described to standard sedimentary criteria[22]. (For further details see Appendix 4).

[22] Gale and Hoare, 1991

5.0 Interim Statement of Excavation Results

This section consists of a phased summary of the results of the excavations at Summerton Way. An attempt has been made here to integrate the stratigraphic, finds and environmental data from both evaluation (**SNY97**) and excavation (**SWY 97**) phases. In order to present as clear a summary of the results as possible detailed exposition of the data has been excluded from this section and can be found in tabular form at Appendix 1. Where data has been derived from both SNY 97 and SWY 97 it has been appropriately distinguished.

This summary should be read in conjunction with the sections, phase plans and land-use diagram reproduced at the end of this section. Sub-groups, where stated, are given thus - {2.2} - and contexts thus - [95]. For additional clarity heights which lay below Ordnance Datum are indicated as -mOD and those which lay above Ordnance Datum are indicated as +mOD.

Phase 1 - Prehistoric Land Surface (SWY 97 Group 1)(figs. 4-5, 7-8)

An horizon of dark brown laminated organic rich peat was exposed at the lower limit of excavation in both north and south trenches. The upper surface of this lay at a maximum height of -1.45m OD in the north trench {1.2} and -1.10m OD in the south trench {1.1}. In both trenches the upper surface of the peat sloped downwards towards the west suggesting the presence of a channel beyond the limits of excavation towards the west (see also topographical reconstruction in Fig.5). In both trenches tree-root complexes were noted within the upper part of the peat, sampled and identified as ash (*Fraxinus excelsior* L).

No artefacts were recovered from these deposits and dating is reliant upon the C14 samples taken (the results of these indicate a Late Bronze Age date for the formation of the peat deposits for further details see Appendix 4.3). Two points are, however, worth making at this point. First, Devoy's observations at Crossness were made very close to the site and dated the peat seen there to the Neolithic (Tilbury III- see footnote 11). Second, the recent excavations at Slocum Close identified two distinct peat horizons the lower of which was Mesolithic in date and the upper of which was undated - it was not possible to excavate sufficiently deeply at SWY97 to ascertain if this was the case here too, however borehole observations made during the evaluation phase seem to suggest the presence on the site of deep and complex deposits of interleaved peat and alluvium similar to those at Slocum Close[23] laying between -2.7m OD and -8m OD.

Data from boreholes, prospection pits and excavated deposits has enabled an attempt to be made at digital terrain modelling. The results of this modelling can be seen in Figures 3-6. It shows that the underlying gravel demonstrates a marked slope downwards from west to east and a slightly less marked downward slope from north

[23] Four boreholes were undertaken, two of which were taken to a full depth of *c.* 14m - one of which lay to the NW and one to the E of the excavation trenches

to south. The upper surface of the peats show a more complex topography with a possible channel cutting from north to south through the peats in the western part of the site. This topography may also have influenced the subsequent alluvial deposition and consequently the topography of the Roman period[24].

Samples taken from the peat were of high potential and may allow the palaeoenvironment of the site in the prehistoric period to be reconstructed. An initial study of the remains indicates the presence of a number of aquatic and semi-aquatic plants.

Phase 2 - Pre-Roman Alluvium (SWY 97 Group 2, SNY 97 Group 8)(Figs7-8)

Sealing the peat deposits of Phase 1 was a quantity of clayey alluvium (for a detailed description of this and other deposits noted in this section refer to the sedimentology report - Appendix 4.3). This material reflects the inundation of the peats during a period of relative river level rise in late prehistory (Thames III). The full depth of this material was seen in the excavation trenches ({2.1} and {2.2}) but not in the evaluation trench ({8.1})- its minimum depth was 0.60m and its maximum was in excess of 0.80m. In the northern trench its upper surface lay at a uniform level of c. -0.70m OD {2.2}. In the southern trench {2.1} its upper surface lay at *c.* -0.70m OD in the western part of the trench but at *c.*-0.40m OD- almost exactly the same as those from the evaluation trench {8.1}. This seems to reflect the topographical effect noted in the peat of Phase 1, although the blanketing effect of the alluvium has obscured the slight northward slope down towards the river noted in the surface of the peats. This material was artefactually sterile and can only be dated relative to the underlying peat deposits and the overlying Roman features.

Phase 3 - 1st Roman activity (SWY Group 3, SNY Group 9)(Figs7-9)

This phase is the first to provide more than topographical and environmental data and consists of a number of field ditches, structural features and some possible pits (see Fig. 9). The ditches appear to have been laid out on a linear grid oriented roughly north-south (i.e. towards the river). Four sections of field ditch were observed - two in the evaluation trench ({9.1} and {9.2}), one in the south trench ({3.1}) and one in the north trench ({3.2}). The sections of ditch noted in the evaluation trench and the south trench form a connected series defining a reversed L-shape with its longest arm running north-south and extending beyond the limits of excavation to north and west[25]. The ditches noted in the south and evaluation trenches were continued by a further section of ditch noted in the north trench ({3.2}) - although this latter feature was oriented slightly further east of north than the more southerly ditches.

[24] See fig 6 - this seems to indicate that finds of Roman date were concentrated where the underlying peat was highest.

[25] The absence of similar features to the east in the excavated area and in the north facing section of the evaluation trench indicates that the did not extend to the south and east of the junction

The ditches were quite broad and relatively shallow (*c.*2m wide and 0.45m deep[26]) with u-shaped profiles. The base of the ditches lay at *c.*-1.35m OD in the north trench, *c.*-1.10m OD in the south trench and *c.*-0.75m in the evaluation trench[27] indicating, unsurprisingly, a drainage northwards towards the river.

Associated with the ditch system were three shallow pits - one in the south trench ({3.3}) and two in the evaluation trench ({9.3} and {9.4}). None of the pits exceeded 250mm in depth but all contained domestic refuse - animal bone, pottery and charcoal.

Also associated with the ditch system were a hearth and a number of postholes. The hearth ({3.6}) lay to the west of the ditches in the south trench. It was composed of flint cobbles and irregular nodules set within a shallow cut. Some fragments of quernstone[28] were included in its composition and some fragments of pottery and burnt daub were recovered from its upper surface - the latter possibly derived from a superstructure. Two square-sectioned postholes ({3.7} and {3.8}) lay close to the southeastern corner of the hearth and seem to indicate that a timber structure may have screened or covered the hearth. Unfortunately the proximity of the limit of excavation and truncation by a later ditch meant that no further traces of this structure were recovered[29].

A further posthole ({3.4}) lay to the east of the ditches in the south trench. It was not associated with any other feature or structure, so its function cannot really be defined.

In the eastern part of the south trench a deposit of alluvium mixed with some organic material ({3.5}) sealed pit {3.3}. This in turn was sealed by deposits of charcoal rich sandy organic silt ({3.9}) containing notable quantities of pottery. These deposits formed an horizon *c.*150mm thick which extended across all of the south trench, except where alluvium {3.5} had raised the contemporary ground surface. Similar deposits were noted in the evaluation trench ({9.5}). The quantity of pottery and charcoal observed in these deposits seemed initially to indicate that they were occupation deposits. However there are no structures or buildings with which this material can be associated - one hearth being insufficient to explain the quantities of material involved[30].

This phase seems to represent an attempt at landscape organisation involving drainage and field division. It may be assumed that conditions were sufficiently dry to allow this - although the shallow nature of the ditches may be explained by the fact that the water table still lay close to the surface even though the site was presumably no longer regularly inundated. The geoarchaeological assessment of the sediments in this phase suggest that they were at the capillary fringe in an area of a fluctuating ground water levels.

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[26] The ditches seen in the evaluation were narrower and shallower - these observations may however have been influenced by the circumstances of excavation

[27] The observed depth in the evaluation trench may not reflect the features' full depth

[28] See finds assessment Appendix 3.2

[29] see below p.19 for discussion of this feature's function

[30] It is possible that this material reflects field manuring -this might account for the high residuality noted in the ceramic assemblage

The pottery dates of post AD250 for this phase fit moderately well with the predicted early to mid 3rd century environmental optimum derived from observations made further upstream[31]. The activity that took place within the newly laid out fields is a little difficult to characterise. The hearth {3.6} seemed to be domestic in function (lacking any evidence of high temperature firing or industrial residues) although it is not clear why it should have been apparently isolated within the corner of a field. The finds from the pits {3.3}, {9.3} and {9.4} are equally indicative only of domestic rubbish disposal.

Phase 4 - Intermission (SWY97 Group 4, SNY 97 Group 10)(Figs 7-8, 10)

Deposits of clayey alluvium entirely sealed the Phase 3 deposits in the south trench ({4.1} and {4.6}) and the evaluation trench ({10.1}) (but were not noted during excavation in the north trench). These deposits are thought to indicate flooding (either on one or several occasions). They form an horizon 100mm to 200mm thick with an upper surface at between -0.60m OD and -0.05m OD which sloped downwards towards both west and south.

In the northwest corner of the south trench the deposits of this phase lay within a slight depression (possibly caused by the subsidence of the fills within ditch {3.1}). Here it appeared that the deposits may not have been deposited in a single episode since a thin band of silty charcoal rich material ({4.5}) divided the alluvium in two. The upper alluvial deposit ({4.6}) also sealed two small patches of scorching ({4.3} and {4.4}) and a vestigial posthole cut. These latter features seem to indicate that some activity was still taking place on the site during the period of flooding.

The geoarchaeological report was unable to distinguish an identifiable flooding horizon at this level. In view of the possibility that the north trench still lay within the floodplain zone (see Appendix 4.3) it is possible that the appearance of apparent flood deposits in the south trench indicates that the episode represents only a minor and temporary increase in the river level indistinguishable in the north trench from the general tidal effects. Certainly the crevasse-splay features noted in later deposits do not seem to be present in the material from this phase.

The apparently minor of the flooding and the fact that some activity was clearly still taking place should be viewed in conjunction with the dating evidence. This seems to indicate that the finds from this phase should be dated to 250-300, generally similar in date to the first phase of Roman activity but markedly earlier than the late 4th century date suggested for the subsequent phases of activity. This might indicate a longer intermission than might be expected from the similarity of activity pre- and post-dating it.

Phase 5 - 2nd Phase of Roman Activity (SWY97 Group 5, SNY97 Group 11)(Figs 7-8, 11 and 13)

[31] See section 3.2

Following the flooding event marked by Phase 4, the site was re-occupied (arguably the evidence from Group 4 may indicate that it was never fully abandoned although its expoitation may have waned). In the evaluation trench a shallow pit or ditch was dug ({11.1}) and in the south trench two hearths were ({5.1} and {5.2}) constructed (postholes {5.3} and {5.4} should also be assigned to this phase).

The two hearths were not contemporary. The earlier hearth ({5.1}), constructed of two lydion[32] bricks set in a shallow cut and wedged in place with fragments of tile and quernstone (see Fig 13), was partially truncated by the later hearth ({5.2}). Hearth {5.2} was circular, 690mm in diameter, and composed of brick/tile fragments and flint cobbles. Similarly to hearth {3.6} neither of the two later hearths provided evidence of high temperature use or industrial residues. One possible posthole ({5.3}) lay close to the south side of the hearths but otherwise there was no sign of any associated structure similar to that noted in conjunction with the earlier hearth {3.6}.

Another posthole ({5.4}) was noted at the eastern end of the south trench but appeared to be an isolated feature the purpose of which is unknown in the absence of any associated features.

A number of silty, artefact rich, deposits, similar in composition and appearance to the "occupation deposits" of the first phase of activity ({3.9}), formed an horizon ({5.5} and {11.2}) which sealed the hearths and other features of this phase.

It is interesting to note that although the construction of hearths {5.1} and {5.2} seem to indicate a continuity of use between the earliest Roman phase and the re-use of the site after the alluvial "intermission" no attempt seems to have been made to re-establish the drainage system represented by ditches {3.1}, {9.1} and {9.2}.

The pottery from the "occupation deposits" sealing the hearths is consistently datable to 350-400. If this material was deposited soon after the hearths ceased to be used, as seems likely, then this phase should be assigned to the late 4th century.

Phase 6 - Latest Roman Activity (SWY97 Group 6, SNY 97 Group 12) (Figs 7-8, 12)

Following the deposition of the "occupation deposits"noted in Phase 5, above, a further phase of activity followed which was characterised by the excavation of drainage ditches found in both north and south trenches ({6.1}-{6.4}) and also in the evaluation trench ({12.1}).

These ditches differed from those noted in the earliest Roman phase in that they were deeper and oriented on a NW/SE alignment. The ditches in the north trench ({6.3}and {6.4}) were again less substantial than those further to the south being a maximum of 240mm deep. In the south trench the ditches were 600mm ({6.2}) and 550mm deep ({6.1}). The latter ditch was a northward continuation of the ditch ({12.1}) seen in the evaluation trench. As can be seen from Fig. 12 the ditches form a parallel grid, with the ditches in the north trench clearly not forming a continuation of those to the south but indicating the presence of cross-ditches perpendicular to the principal alignment.

[32] One of a number of standard Roman brick sizes - the lydion was one Roman foot wide and one and a half feet long

A hypothetical extension of the alignment of the ditches suggests the presence of a field *c.*30m wide and in excess of 50m long with a narrower strip, *c.*7-8m wide, defined by a pair of ditches, to the west of the the field.

The westernmost of the paired ditches seems to have silted up (its fill overflowing the limits of the feature) and as a consequence was recut ({6.5}). This was the only ditch to show clear evidence of recutting. The westernmost ditch in the south trench ({6.2}) seems to have filled with a single homogenous silty deposit suggesting a sudden blocking of the ditch - but this ditch was not recut.

A number of shallow pits and (possible) postholes have also been assigned to this phase ({6.6}- {6.15} and {12.2}). With the exception of the single feature from the evaluation trench ({12.2}) all of the postholes and pits were found between the paired ditches in the south trench. The postholes cannot easily be resolved into a structure - it is possible that some of them({6.6} - {6.8}) form a fence line running alongside the inner edge of the recut western ditch ({6.5}) - the postholes had been inserted through the overbank deposit [39] {6.1} which spilled beyond the confines of the ditch.

The activity being undertaken in this period is difficult to judge from the material recovered - the only animal bone recovered came from the ditches in the north trench and not even all of the pits in the south trench produced pottery. The finds are however best interpreted as indicating the disposal of domestic waste.

The hearths of Phase 5 do not appear to have been replaced by similar structures so a change of function is indicated. This impression is reinforced by the appearance of the substantial drainage scheme implied by ditches {6.1}- {6.4} and {12.1}. It is possible that the site was becoming too waterlogged to sustain the former activity and the ditches were excavated in an attempt to rectify this. If so the attempt does not seem to have been very successful as the ditches appear to have silted up quite quickly and only one ditch was subsequently recut.

The pottery from the ditches {6.1} and {6.2} is closely datable to the late 4th century , however the finds from the other deposits are more generally datable to the 3rd and 4th centuries - possibly indicating a degree of residuality.

Phase 7 - Post-Roman Alluvium (SWY97 Group7, SNY97 Group 13)(Figs7-8)

Sealing the ditches, pits and other features of Phase 6 were deposits of clay/silt alluvium. In the north trench these deposits ({7.2}) were up to 300mm thick with an upper surface at -0.40m OD, in the south trench ({7.1}) the deposits were up to 200mm thick and had an undulating surface at between -0.20m OD and +0.10m OD, in the evaluation trench ({13.1}) the deposits were between 200mm and 400mm thick and the upper surface lay at *c.*+0.50m OD.

This horizon marks the end of Roman activity on the site. The geoarchaeological report identifies high energy overbank deposits sealing the latest Roman activity. The supposition is that a crevasse-splay episode occurred (see Appendix 4.3) which marked the end of activity on the site - in effect a bund or levee was overwhelmed and never repaired.

Although the majority of the pottery from these deposits is datable to the late 4th century it is probable that this material is residual. While this horizon may have begun to form at that date the presence of pottery datable to 1350-1450 at the upper surface of this horizon in the south trench suggests that the deposition continued into the mediaeval period.

Phase 8 - Post-mediaeval Alluvium (SNY 97 Group 14)(Figs7-8)

The final phase is represented by further deposits of silt clay alluvium. These deposits contained lenses of clinker, stockbrick and other modern material and were treated as modern overburden in the north and south trenches. The upper surface of these deposits lay at *c.*+1.30m OD. The interface with the Phase 7 alluvial deposits was clearly marked, as was that with the overlying material (which was fine sand known to have been imported to the site at a very recent date). In the evaluation trench these deposits were recorded as {14.1} with an upper surface at *c.*+1.0m OD.

This material seems to be alluvium deposited in the post-mediaeval period and subsequently pitted and partially redeposited in the 19th and early 20th centuries.

General Summary and Comments

The excavations at Summerton Way provided detailed information about the topographical, environmental and historical development of the site which also has a potentially wider application in the study of London and more generally in the study of the development of the Thames estuary.

The discovery of peats on the site has allowed an addition to be made to our knowledge of the prehistoric topography of the middle Thames estuary already illuminated by recent work in Woolwich, Erith and elsewhere in Thamesmead. Any potential revision of Devoy's scheme of estuarine development would be based on the topograhical and chronological information provided by such data. Further detailed analysis of the botanical and sedimentological samples from the site potentially allow a fuller picture of the environmental development of the area to be established.

In general terms, the observations from Thamesmead confirm Devoy's pattern of a peat-forming regression followed in late Prehistory by rising river levels. Observations made upstream in Southwark and the City of London suggest a peak in river levels early in the Roman period. From the same observations it had been possible to predict a minimum river level in the first half of the 3rd century. The appearance of the first activity on the site at the date of the predicted minimum serves to confirm the previously theoretical dating.

At the beginning of the Roman period therefore the site lay at the margins of the river in an area of mudflats, periodically inundated. During the first two centuries AD the river levels gradually dropped until the site lay consistently on dry land. In the middle of the 3rd century a network of ditches was laid out over the site partly to divide up the land and partly no doubt to drain an area where the water table was still quite high. The botanical remains from this first phase of activity suggest disturbed or waste ground - a site still close to the margins of the river might logically have been given

over to pasture rather than arable use. However the presence of charred grain and quernstones associated with this phase suggest the possibility of crop processing on the site even though they might not necessarily indicate crop production.An unusual feature of the site is the presence of an apparently domestic hearth associated with the ditch network. It is possible that this feature was intended for grain parching but it was far too small for this to be viable on a commercial scale. Nonetheless no domestic structures were identified which would have provided this feature with a more plausible context - so its actual purpose must remain uncertain for the moment.

The fields laid out in the first phase seem to have been inundated and possibily temporarily abandoned early in the 4th century. The gap in occupation may have been up to 50 years long, if the post 350 date for the last two phases of activity is accurate. However the hearths and ditches which constituted the final Roman phases were more or less identical to those of the earlier phase. The principal difference between the later and the early phases lay in the altered orientation of the ditch network in the later phase.

The presence of apparently residual 1st and 2nd century pottery and building material amongst the finds assemblage from the site raises interesting questions about activity in the vicinity in the period before the site became sufficiently dry to attract activity in its own right. Almost all of the Roman brick and tile from the site along with a substantial proportion of the pottery predates the 3rd century. Whilst all of the activity on the site can be securely dated to the 3rd and 4th century the quantity of earlier material strongly suggests the presence nearby of a farm or settlement before the 3rd century. The most probable location of such a settlement lies in the area of the Crossness Sewage Works where Spurrell noted masonry remains in the 19th century (and where similar discoveries have apparently been made more recently).

Whilst it is not strictly the purpose of this report to speculate on the nature of potential remains beyond the site the material found associated with the Roman phases of the site suggests the presence nearby of a masonry structure with hypocaust heating - by implication a substantial building of villa-type. That the building(s) continued in use and were repaired in the 3rd or 4th century is indicated by box-flue tile fragments of this date in the building material assemblage from SWY97 (see Appendix 3.3). Its relevance lies in the fact that the presence of such a settlement must be considered the most likely focus for the field systems present on the Summerton Way site.

The function of the site can be tentatively deduced from the finds and environmental assemblage recovered. Its potential relationship to a hypothetical building or settlement has been touched on above and it may be concluded that the site lay within the field system immediately adjacent to the building (s).and sufficiently close, judging by the quantity of finds, to be the location of domestic rubbish disposal. The division of the site by successive networks of field ditches indicates a probable agricultural function, but as noted above the environmental data does not point definitively to either pastoral or arable exploitation of the land. It is however clear that despite the presence of a number of hearths on the site there is no evidence, either from discarded wasters or production residues, of any kind of craft or industrial production on or near to the site.

The pottery assemblage is (see Appendix 3.1) entirely typical of a Late Roman domestic site, albeit probably one of fairly high status. It contained both coarse and fine wares, imported and domestic. The range of non-ceramic finds was unusually limited, however this may be reflective of the conditions of deposition and recovery rather than the original range of the assemblage.

It has been suggested that Crossness may have been one of number of places in the Thames estuary where sailing vessels attempting to make their way upstream to London could anchor in order to ride out contrary winds[33]. This might provide a plausible explanation for the location of a fairly substantial building(s) in an otherwise unpromising spot. In effect such a settlement might be characterised as a 'maritime mansio' - in this case, it might be added, with good access to a land route to London via Watling St. Supporting evidence for this theory is ambiguous. The finds assemblage from Summerton Way includes a proportion of imported Eifelkeramik and Mayen Ware pottery and also a notable quantity of Mayen lava quernstone fragments. Mayen lava was commonly used for quernstone production in the Roman (and later) periods[34] and is thought to have been imported as ballast and might therefore be thought to indicate the possibility of transhipment of goods on or near the site. The proportion of Eifelkeramik/Mayen ware from Summerton Way is notably higher than the proportion from London generally. However the number of sherds involved is small and possibly therefore statistically unreliable. The presence of imported quernstones and pottery is tantalisingly suggestive of direct trade but might on the other hand indicate nothing more than the redistribution of imported goods via London.

The end of Roman activity on the site also provides some points of interest. It is notable that the latest phases of ditch excavation potentially belong to the latter part of the 4th century - a period not widely represented in London. This can be taken to imply that activity continued in a potentially vulnerable area until a relatively late date, also that river levels did not rise sufficiently to return the site to marginal viability within the Roman period. Comparison can usefully be made with the Darenth valley villas when considering the longevity of the rural sites in Londinium's Kentish hinterland.

An additional point of interest lies in the fact that the geoarchaeological report on the sediments sampled at Summerton Way indicates that the site was finally inundated following a levee burst. Not unsurprising perhaps, except that it strongly suggests the existence of a levee or bund (for which there is no other evidence) and equally implies that such a levee was maintained until at least the late 4th century.

Following the late or post-Roman breach of the river defences its seems that rising water levels resulted in the site reverting to marginal marshland, a state in which it remained until quite recent times. The presence of late mediaeval pottery from the site suggests continued activity in the vicinity but no significant remains were encountered on the site.

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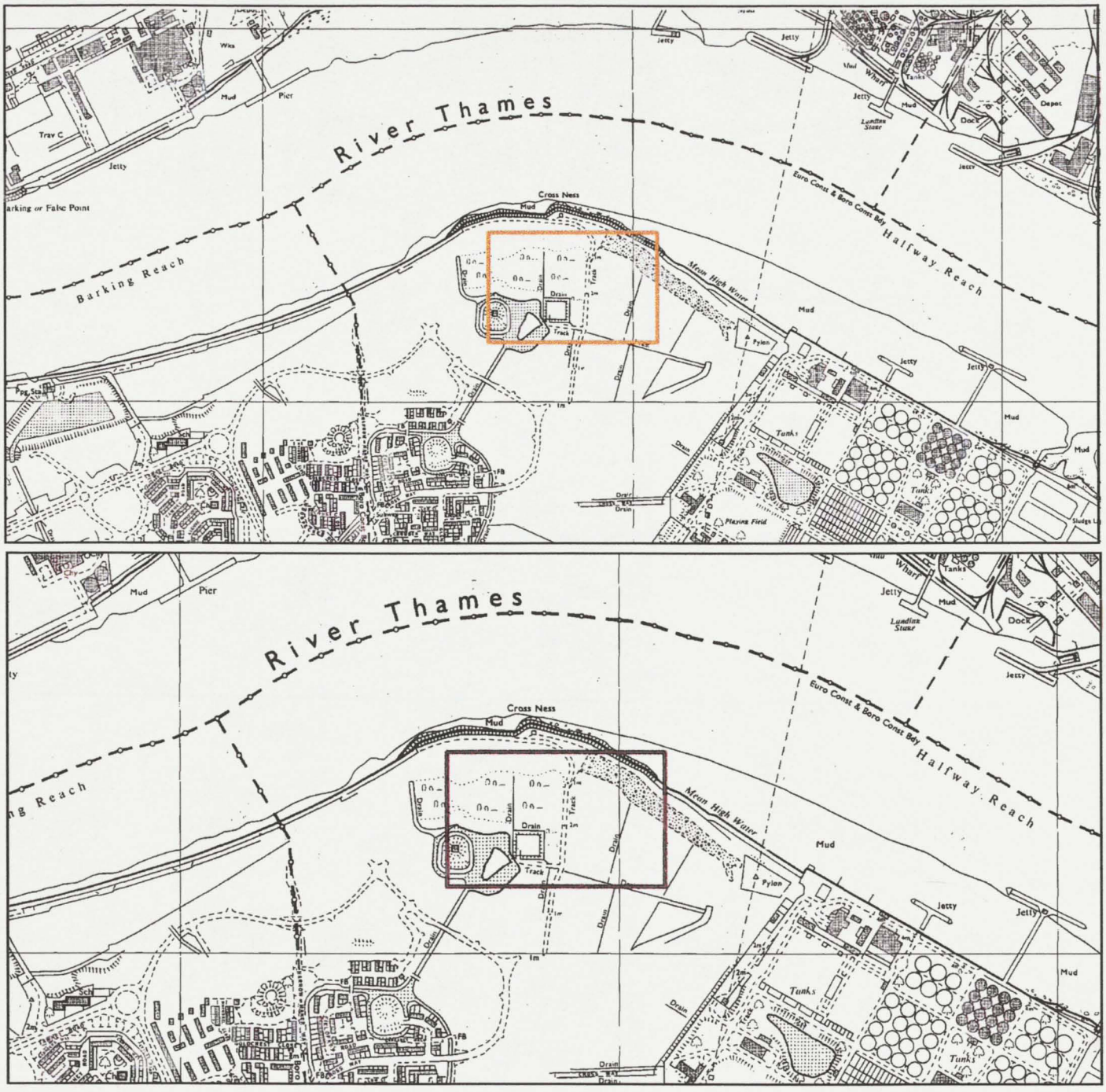
[33] pers.comm. T.Brigham and D. Goodburn
[34] Peacock, 1980 and Williams, 1997



Project:

Summerton Way

Drawing

Fig.3: Extents of digital terrain modelling

file:
p:\bexl\1008\swy97\gis

scale

0 300m

peat DTM limits

gravel DTM limits

museum of LONDON
ARCHAEOLOGY SERVICE

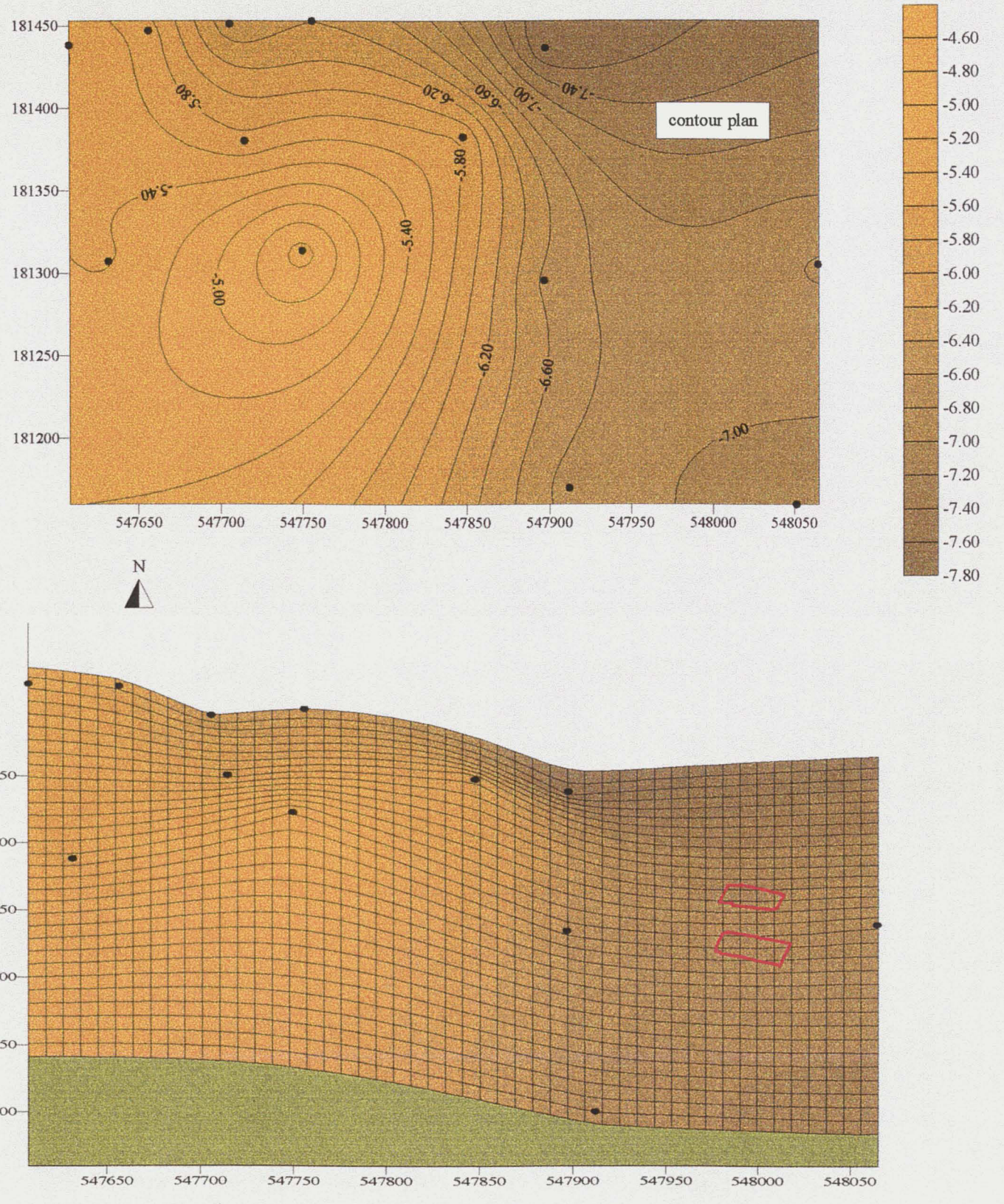


Fig.4: Digital terrain model of gravel surface looking North

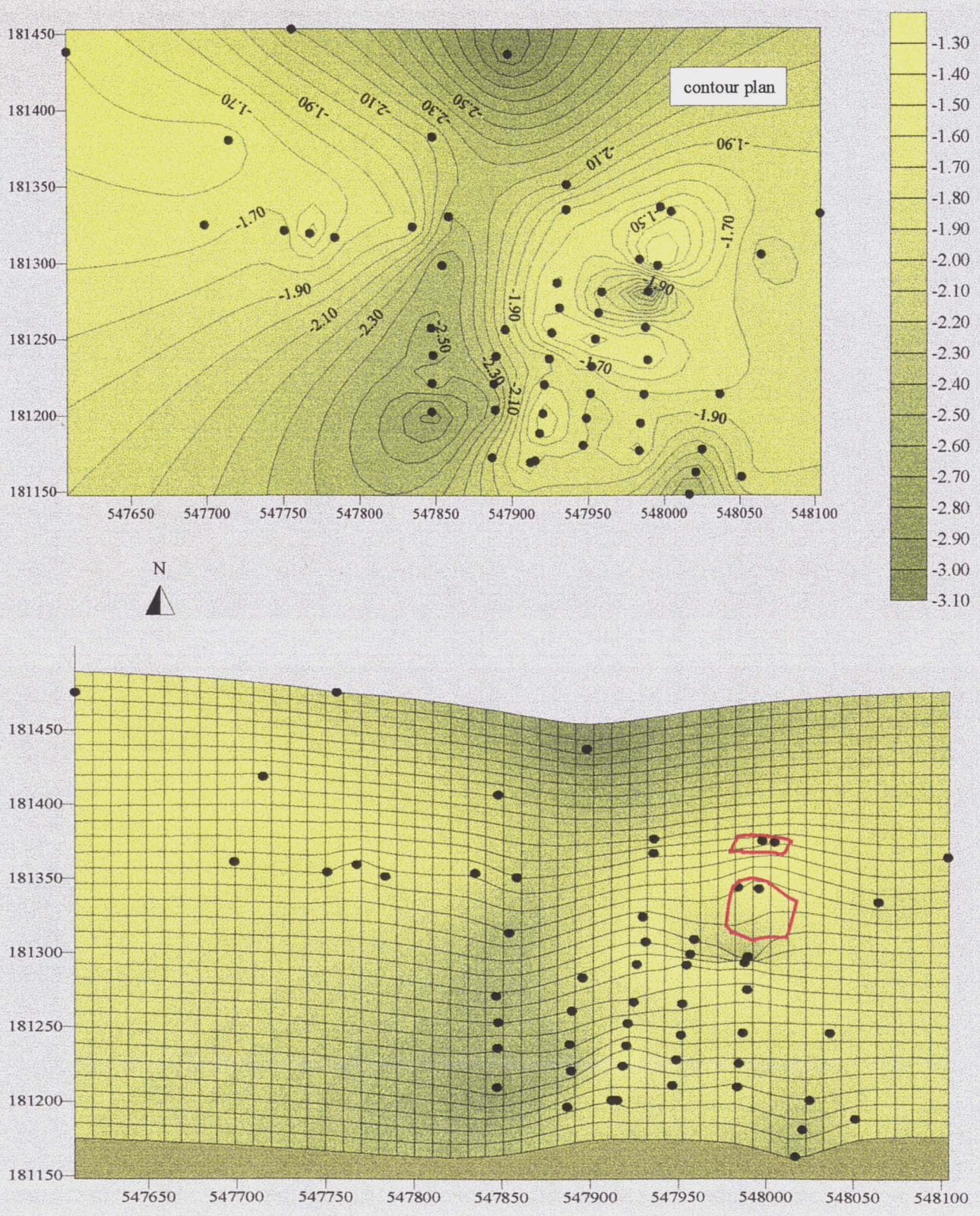
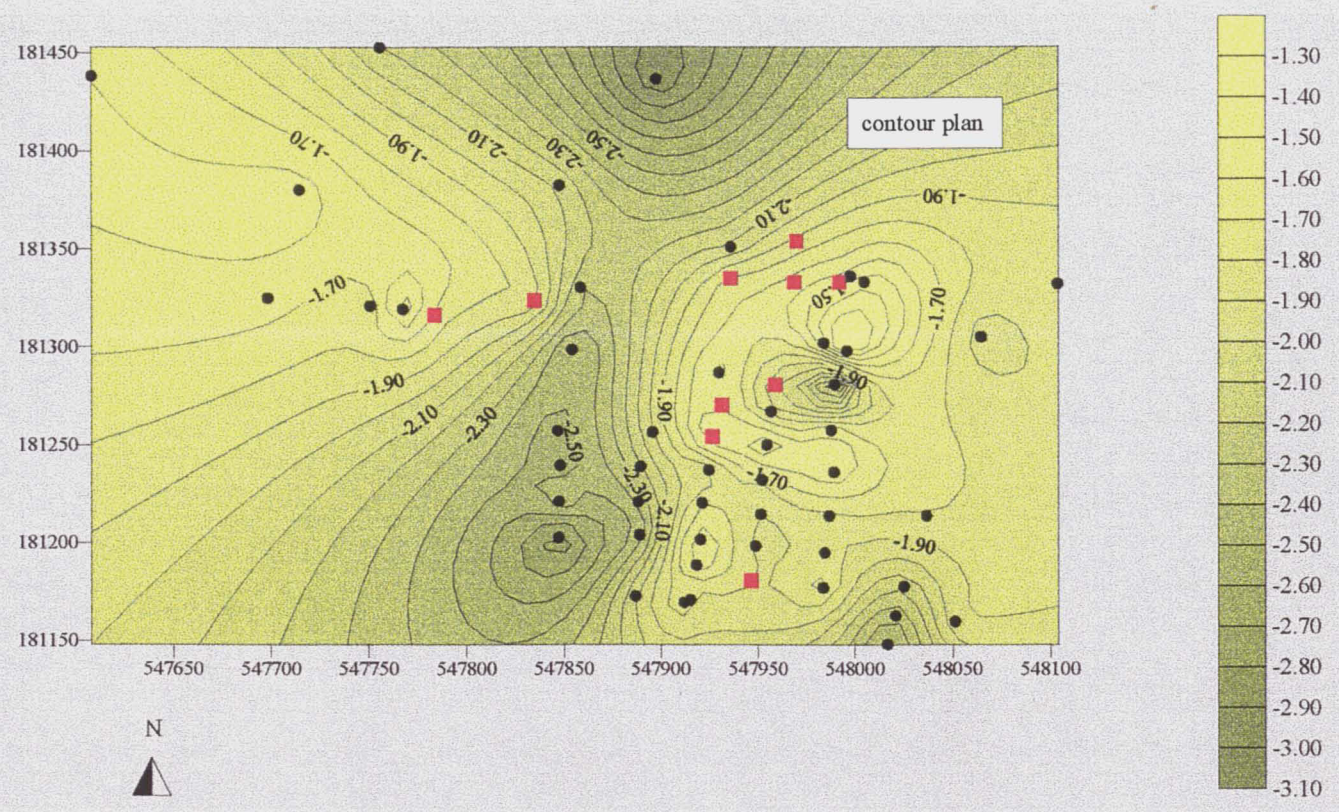


Fig.5: Digital terrain model of peat horizon looking North

trench limits
boreholes/testpits



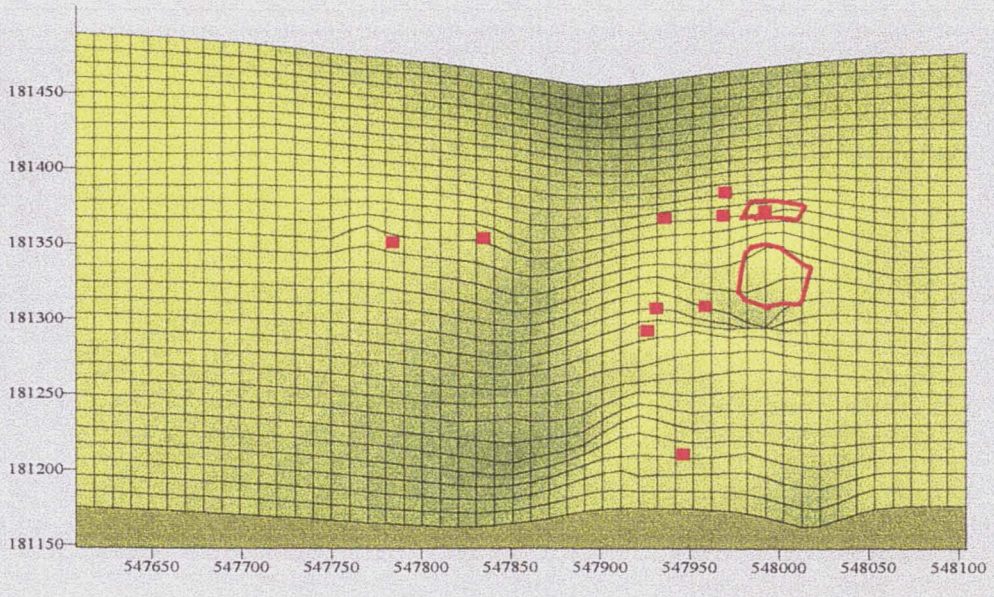


Fig.6: Distribution of Roman artefacts draped over the peat topography looking North

trench limits
boreholes/testpits
Roman material

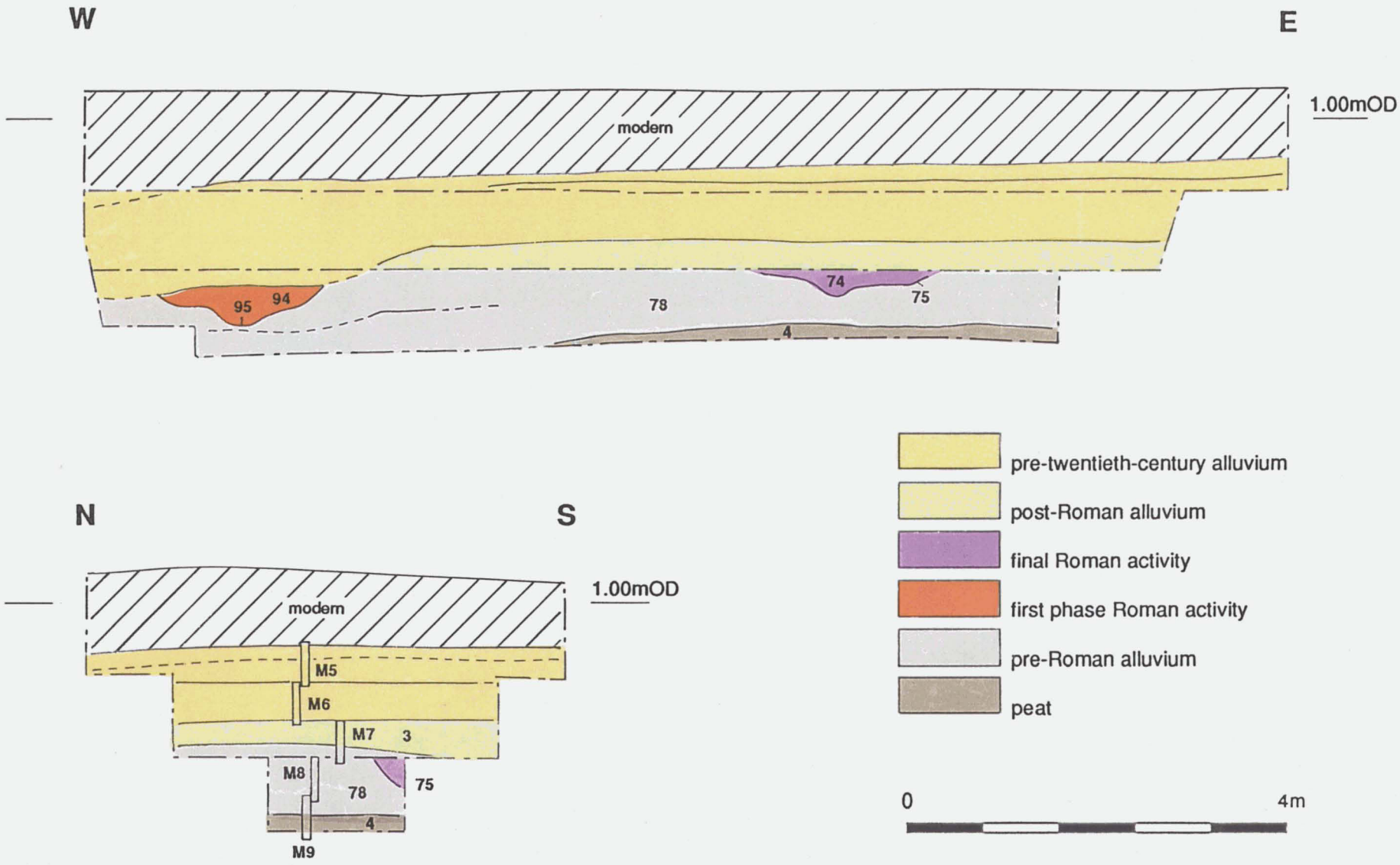


Fig 7 South and East Facing Sections in South Trench (SWY97)

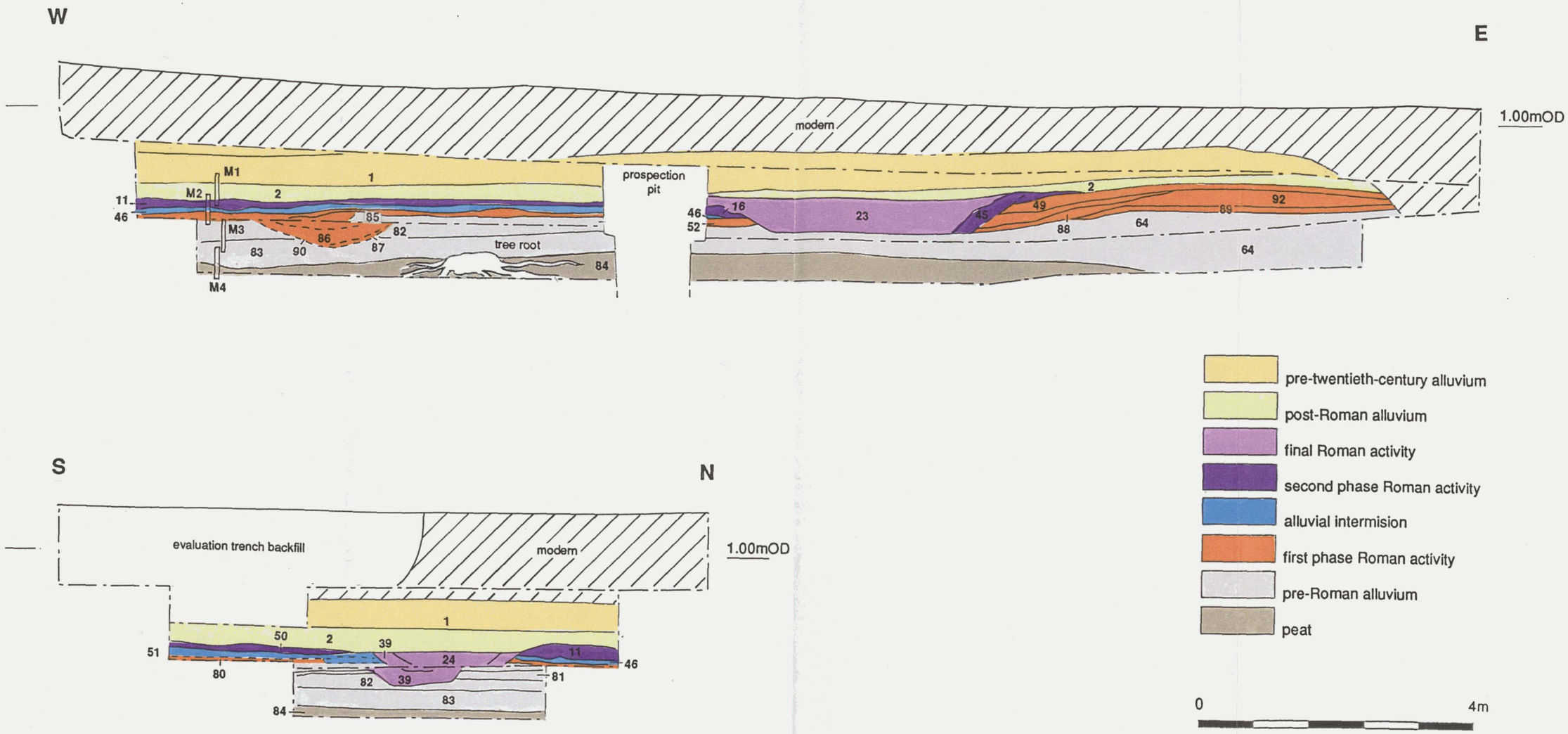


Fig 8 South and West Facing Sections in North Trench (SWY97)

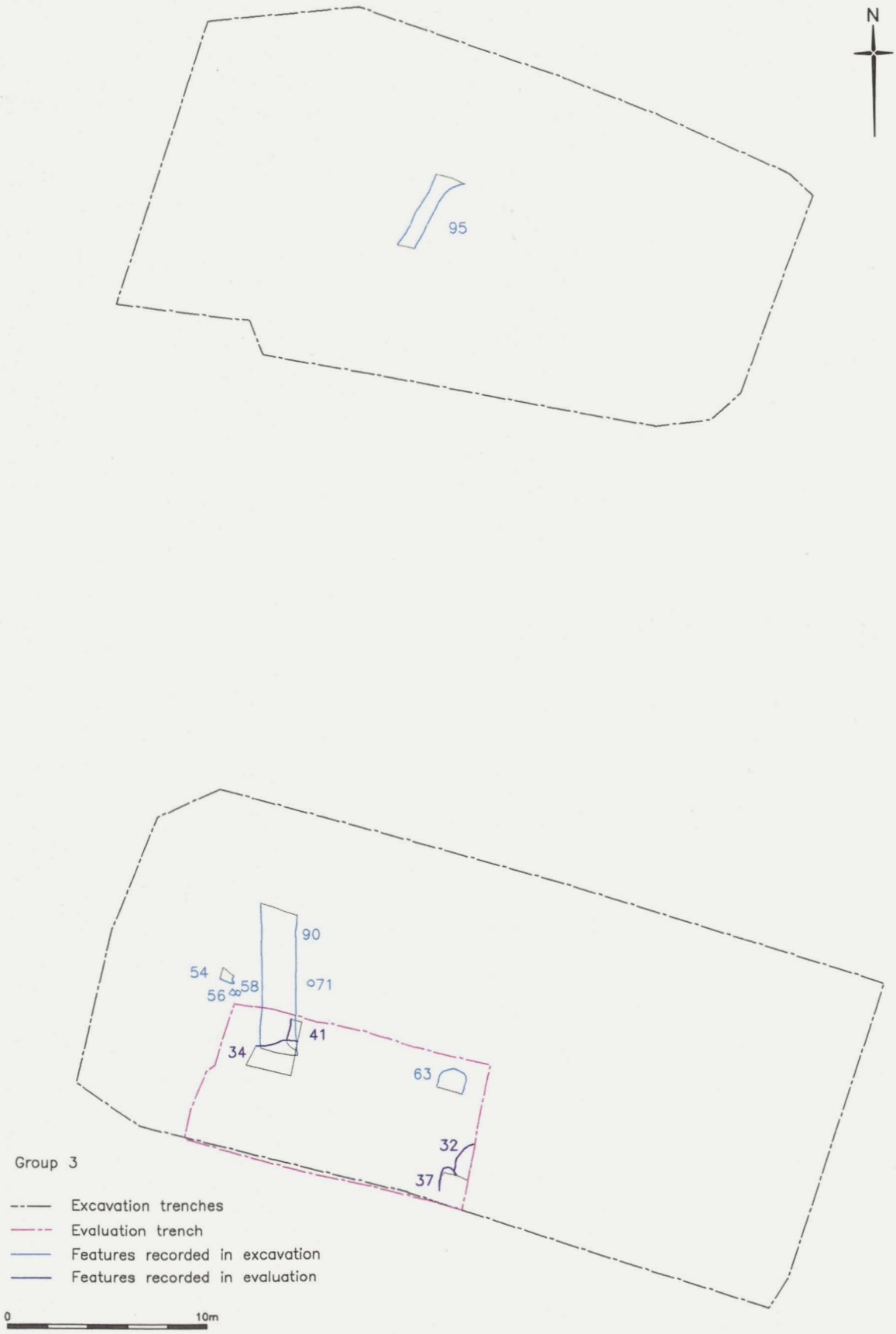


Fig 9 Phase 3 - 1st Roman Activity

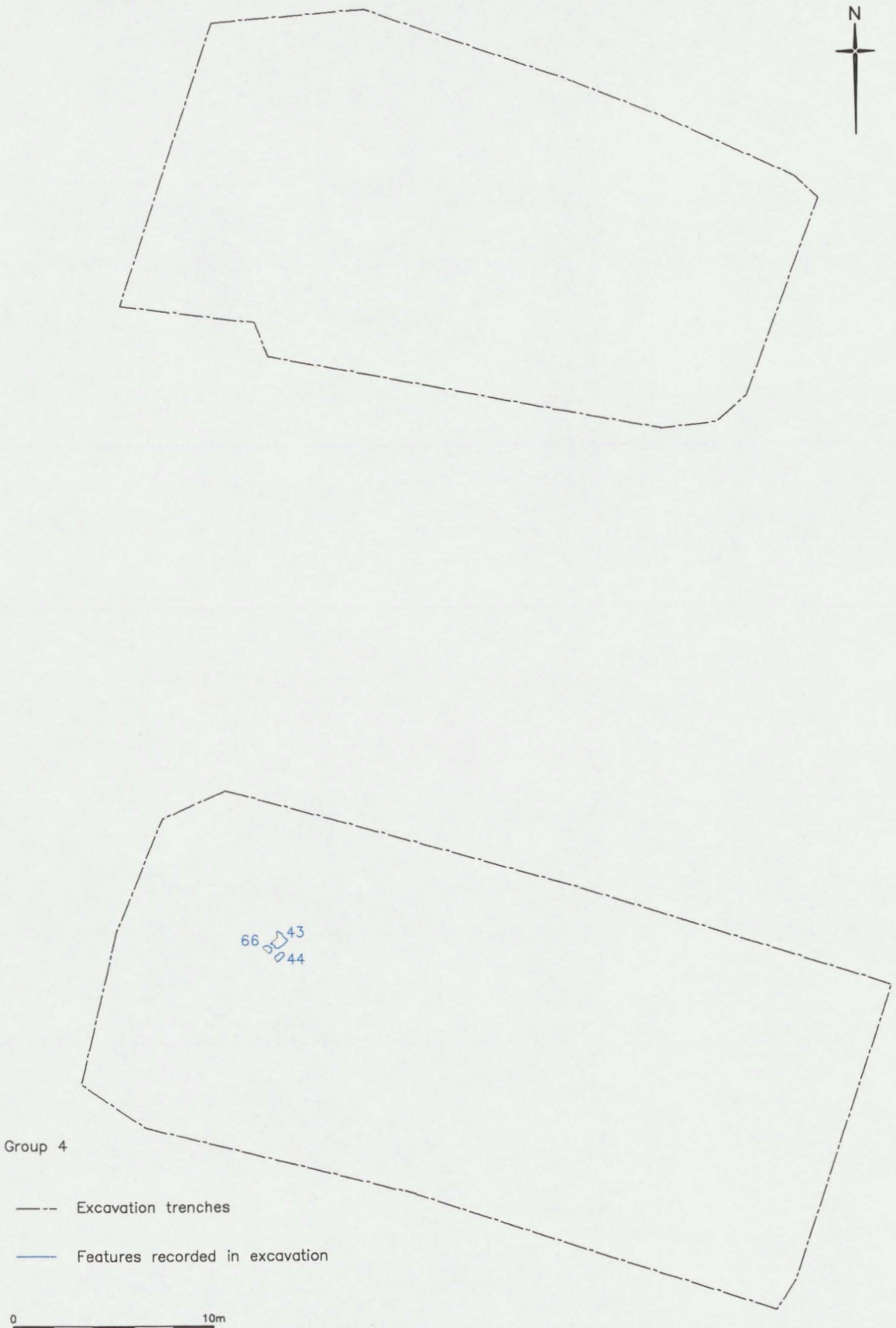


Fig 10 Phase 4 - Intermission

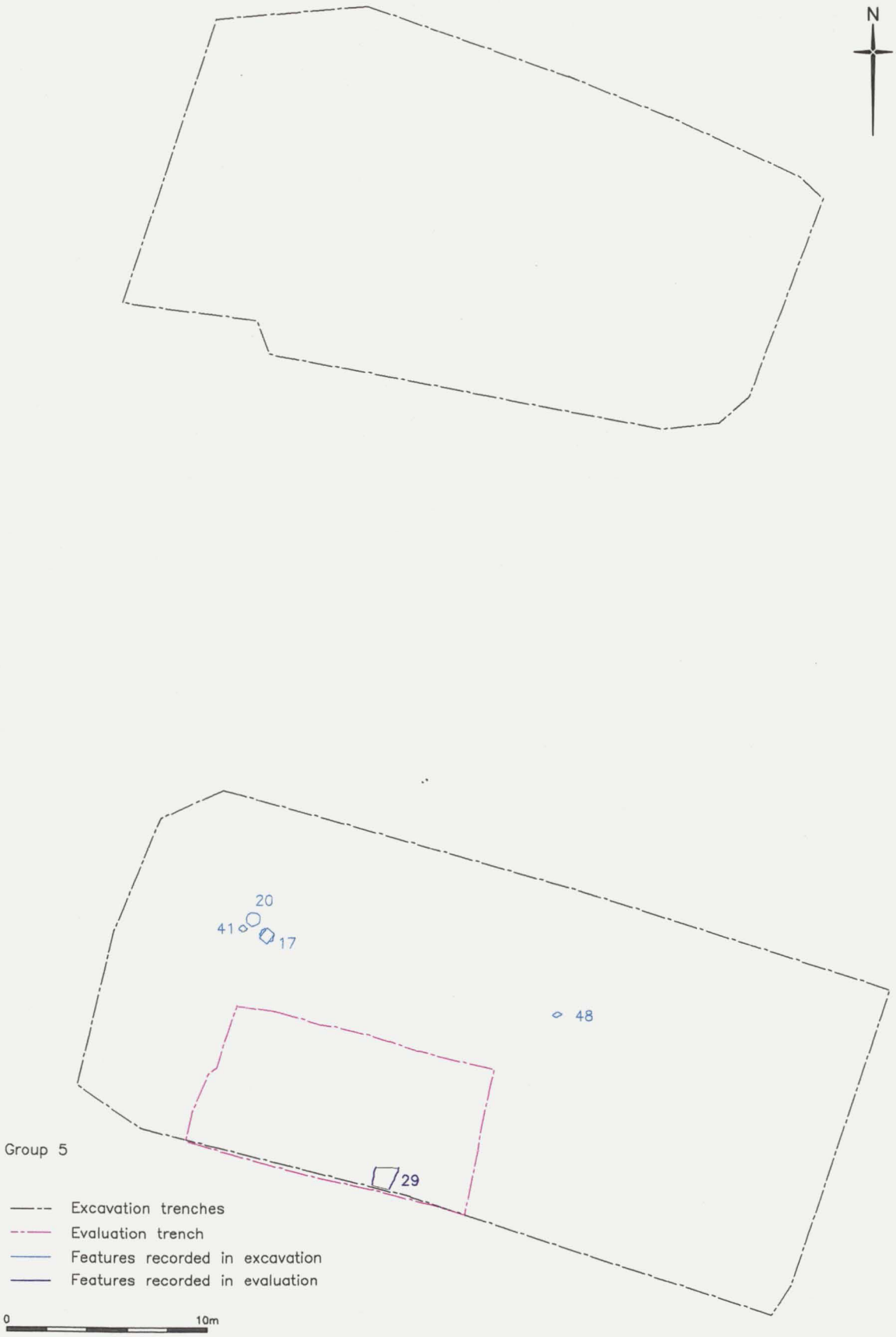


Fig 11 Phase 5 - 2nd Roman Phase of Activity

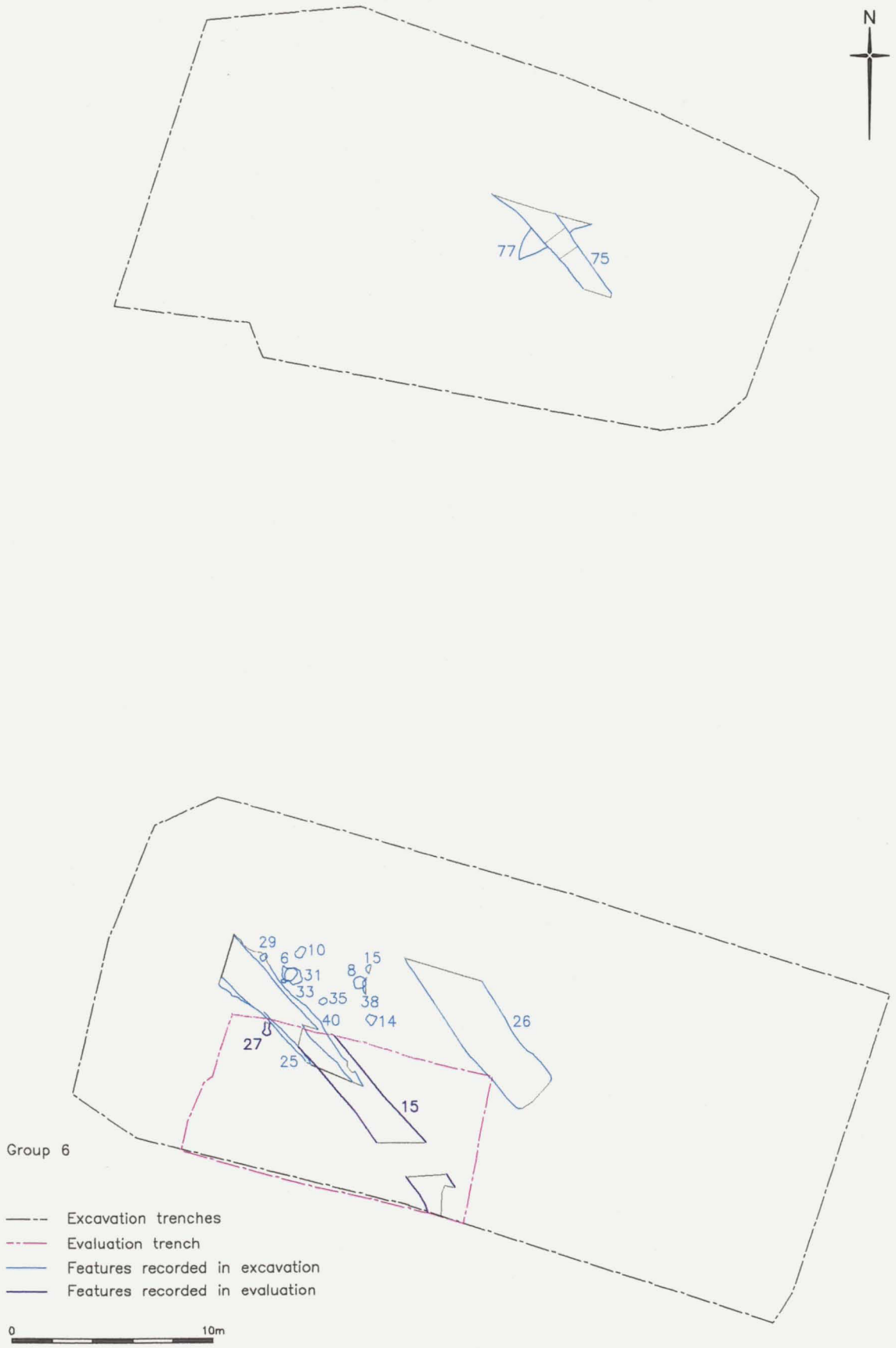


Fig 12 Phase 6 - Latest Roman Activity

Fig 13 Phase 7 - Photograph, Hearths (Phase 5)

6.0 Statement of Potential for Further Analysis

The post-excavation assessment of the data from Summerton Way has established a dated stratigraphic framework supported by preliminary finds and environmental studies allowing a basic characterisation of the archaeological remains to be made and some of the original Research Aims to be tentatively answered. Further analysis will be necessary, particularly with regard to the finds and environmental assemblages, before publication can be undertaken.

Some suggested topics for further finds and environmental analysis are given in Appendices 3 and 4. Detailed proposals for analysis and publication will be laid out in Sections 7 and 8 of this Assessment Report. Section 6 will consider the potential in terms of the original Research Aims, stating, where necessary, the need for further analysis.

6.1 Potential for Further Analysis

RA1 - What was the nature of occupation and /or other activities within the two distinct Roman horizons (noted during the evaluation)?

The discovery of extensive ditch networks suggests an agricultural use of the site which is supported by preliminary finds and environmental data assessment, in particular the presence of quernstones and chaff fragments.

Assessment of remaining botanical samples and full analysis of selected assessed samples, along with subsampling of monolith samples for Magnetic Susceptibility and Loss on Ignition tests and Pollen analysis will allow a rounded environmental picture of the site to be drawn and establish the nature of its agricultural or other use.

RA2 - What were the circumstances, whether they be environmental, economic, trade or a mixture which enabled or encouraged occupation within this part of the Thames floodplain ?

Initial assessment of the dated sedimentological sequence demonstrates a cycle of rising and falling river levels which would have determined the viability of activity on the site at any given period.

Comparison of the date and OD height of the features at Summerton Way with similarly dated features from riverside sites in London will allow the site to be studied in the context of the perceived river regime of the Thames in the Roman period. Subsampling of the monolith samples for diatom analysis and full analysis of selected botanical samples will further illuminate the environment of the site at the periods of greatest activity. Analysis and illustration of selected groups of pottery will allow the site to be placed within the currently

perceived economic and trade pattern of Late Roman London and the South-east.

RAE(3) - What were the circumstances, whether they be environmental, economic, trade or a mixture which ended occupation within this part of the Thames floodplain?

The datable finds assemblage from the site suggests that activity continued on the site as late into the Roman period as anywhere else in London and its hinterland, which allows the site to be considered in the general study of the economic and social developments of this period. Preliminary assessment of the sedimentological sequence suggests that the site was inundated following a breach of flood defences at a date in or after the late 4th century.

Further study of sub-samples of the sediment sequence for pollen, diatom and other tests may add to our understanding of the post-Roman environment and thus, by comparison, illuminate the circumstances of site abandonment.

RAE(4) - Is this a pottery production centre and if so what wares were being produced, what fabrics and forms utilised, when and with what distribution?

There is no evidence to suggest pottery production on this site

RA5 - Can the nature, layout and organisation of any industrial processes be identified?

There is no firm evidence of industrial processes being carried out on the site.

Comparison of the hearth features noted in the Roman phases of the sequence with similar features from other Romano-British rural sites may establish an industrial function for the features.

RA6 - Can the occupation, exploitation or management of the site and/or vicinity during the Roman period be identified within the environmental record ?

Preliminary assessment of the animal bone and botanical material has identified the presence of bone fragments, grain, chaff and seeds which may illuminate the exploitation of the site.

Full analysis of selected groups of animal bone and botanical material will allow a more accurate picture to be drawn of the exploitation of the site. This may be supported by Loss on Ignition and Magnetic Susceptibility tests on subsamples of the monoliths.

RA7 Did the location of the site and the primary activities taking place there affect the lifestyle and trade networks of the occupants?

Preliminary assessment of the finds assemblage from the site does not indicate substantial differences in the range of material from Summerton Way and that from other Late Roman sites in London and it environs. Variations in the proportion of certain ceramic types might indicate variations in the trade pattern between Summerton Way and other sites.

Full analysis and illustration of selected pottery groups will allow better comparison with other sites in order to define this potential trade variation

RA8 - Can the site be used to refine our understanding of the dating and the geographical variations in the post-AD 250 marine transgression ?

Preliminary assessment of the dated sedimentological sequence from Summerton Way suggests that variation in the river regime of the Thames in the area of the site is detectable and as such has potential to add to our knowledge of riverine development.

Diatom analysis of sub-samples of the monoliths and comparison of the OD height and date of features from the site with similar riverside sites in London and the Thames estuary may help to illuminate the date and extent of suggested marine transgression in the Late- or Post-Roman period.

RA9 - Can a temporary regression be identified and related to the re-occupation of the site ?

As above

RA10 - What are the dates for the series of site occupations and abandonments ?

The earliest datable phase of activity on the site can be assigned to the second half of the 3rd century and the later phases to the late 4th century. Except for a small quantity of medieval pottery and building material there is no evidence of activity on or near the site until very recently.

No further work is considered necessary to refine the dating of the phases of activity on the site

RA11 - What are the implications for the presently understood trade patterns in local and national terms of the identification of a pottery production site at Thamesmead?

There is no evidence to suggest pottery production on this site

RA12 - With the identification of the nature and date of the Thamesmead site, can our understanding of the Roman archaeological record for this area be further refined?

The establishment of a dated archaeological sequence for the site allowing identification of particular phases of activity in the Roman period, supported by finds and environmental assemblages, will inevitably allow our understanding of the Roman archaeological record of the area, where little data has previously been available, to be refined.

Additional research into the nature of recent discoveries believed to have been made on nearby sites may allow the features identified at Summerton Way to be placed more accurately in their context.

RA13 - What is the nature and dates of the palaeoenvironmental sequence prior to the Roman period ?

Preliminary analysis indicates that the Roman deposits are underlain by a sequence of peats and alluvial deposits. The peats were dated to the Late Bronze Age and were sealed by alluvial deposits indicating rising river levels in the first millenium BC reaching a peak and then retreating by the mid 3rd century AD.

Pollen and diatom analysis of sub-samples of the monoliths will allow further definition of the environmental conditions in the pre-Roman period.Analysis of selected botanical samples may also contribute to this study.

RA14 - Is there any early Saxon occupation/activity on site and is there a break between it and the Roman occupation ?

There is no evidence of early Saxon activity on the site

RA15 - What was the nature and date of Post-Medieval activity on the site?

With the exception of some mediaeval pottery and building material redeposited within the post-Roman alluvium there is no indication of human activity on the site after the 4th century, until very recent times.

Revised Research Aims

The Research Aims, developed as a result of the findings of the field evaluation, and set out in the Specification Document for the excavation at Summerton Way are given above in Section 2.0. The potential of the data generated by the excavation to answer the questions arising from these aims is considered above and in some cases it was noted that insufficient information existed to answer a particular question. However the results of the excavation have produced data which potentially illuminates other or more specific questions which are posed here as additional Revised Research Aims.

RA16 - Can the fields, ditch networks and other features of Roman date on the site be directly related to a nearby settlement?

The presence of moderate quantities of building material and large quantities of domestic rubbish on the site suggests the presence nearby of buildings or other features which were not seen on the site.In particular the presence of a pila brick and box flue fragments suggest the construction nearby of a substantial (because hypocaust heated) building in the late 3rd or 4th century.

Additional research into the nature of recent and antiquarian discoveries believed to have been made on nearby sites may allow the features identified at Summerton Way to be placed more accurately in their context.

RA17 - Does the presence of Eifelkeramik pottery and Mayen quernstones in the finds assemblage suggest direct importation to the site?

The Eifelkeramik sherds in the pottery assemblage from the site form an unusually high proportion of the whole when compared with other late Roman assemblages from London. Taken with the similar provenance for the quernstones from the site and the site location near to a principal trade route, the possibility occurs that the material was delivered directly to the site rather than redirected via another centre.

Full analysis and illustration of selected pottery groups will allow better comparison with other sites in order to define this potential trade variation

RA18 - What was the function of the hearths noted as present during the Roman phases of the site?

Three hearths were recorded on the site, belonging to both earlier and later phases of Roman activity. Initial analysis suggests that they did not serve an industrial function but their actual use is unknown.

Research into similar features on other Romano-British rural sites may suggest a function for these features on the basis of similarity of form and context.

RA19 - What are the implications for the presently understood trade patterns in local and regional terms of the ceramic material from Summerton Way?

The pottery assemblage at Thamesmead seems to indicate that material was arriving from north of the river in a direct manner, without passing via London, as well as arriving in small quantities from Germany and in larger quantities from other parts of southern Britain

The publication of this pottery carries the possiblity of altering current perceptions on the movements of pottery in northern Kent, eastern London and the Thames Estuary, particularly in the later Roman period. It is also useful to see which of the types commonly found in London, such as Highgate and Verulamium Region wares, have travelled so far eastwards, and which have not..

RA 20 - Can the assemblage from the site assist in the dating of Late Roman Pottery Types?

> Thamesmead has provided a very useful body of grog-tempered coarse wares which are likely to have been made relatively locally as well as fine wares from Hadham, the Nene Valley and Oxfordshire.

These types have considerable potential to provide better understanding of the continuity of these wares in the region - complementary to current work on the same subject involving recent sites in the City of London and Southwark.

7.0 Proposed Publications and Synopses

7.1 Proposed Publications

The relatively small amount of data generated by the excavations at Summerton Way is deemed to be best presented in journal article format. It is suggested that the material is split between two articles.

A full report of the stratigraphic sequence supported by finds and environmental summaries, totalling approximately 15 pages, would be prepared for publication in a county journal. *Archaeologia Cantiana* is proposed as a possible suitable venue for such an article.

An additional report providing detailed consideration of selected groups of Late Roman pottery supported by a stratigraphic summary, totalling approximately 15 pages, would be prepared for a specialist journal. *The Journal of Roman Pottery Studies* is proposed as possible suitable venue for such an article.

It is thought particularly important in this case that the pottery groups from the site should be reported on in sufficient detail in an appropriate venue. As this would unduly alter the balance of a conventional unitary site report a split between two reports has been suggested . A similar approach has been succesfully applied in other cases and need not add significantly to the overall cost of publication.

7.2 Publication Synopses

The synopses given here reflect the results of the post-excavation assessment and may change in detail as the result of further anlysis. The full sequence report will consider all aspects of the results of excavation and will include summary discussions of the finds and environmental assemblages. The specialist pottery report will only consider selected pottery groups but will be supported by a stratigraphic summary in order to place these groups in context.

7.2.1 Publication Synopsis of Proposed Full Sequence Report

1 - Introduction

Location and circumstances of fieldwork

2- Archaeological results

Geology and topography
Peat and alluvium sequence
First Roman activity
Intermission
Later Roman activity

Post-Roman alluvium

3 - Finds Assemblage

Summary of pottery
Registered finds
Building material

4- Environmental Assemblage

Botanical remains
Sediments
Pollen, diatom, Loss on Ignition and Magnetic Susceptibility test results
Animal bone (including cremated material)

5 - Discussion and Conclusions

6 - Acknowledgements

7 - Bibliography/references

7.2.2 Publication Synopsis of Proposed Specialist Pottery Report

1. Introduction, and site summary

2. The dating and significance of the material (with tables and date-range graphs)

3. The pottery types present

3a. The Romano-British fine wares

3b. The Romano-British coarse wares

3c. The imported wares

3d. Samian stamp report

3d. Catalogue of illustrated vessels

4. Results of quantification of selected contexts (with quantification tables)

5. Conclusions

6. Bibliography; acknowledgements

8.0 Method Statement

8.1 Stratigraphy

The correlation of stratigraphic grouping and dating has been undertaken as part of the post-excavation assessment and little further analysis is required. Data generated by further specialist analysis will require integration with the stratigraphic groupings already established. Some archival research relating to nearby and equivalent sites may be required. Once all this material has been integrated report text can be written.

Further work required:

Task 1. Archival Research
Task 2. Integration of specialist reports generated by further analysis
Task 3. Write full sequence report text
Task 4. Write stratigraphic summary for specialist pottery publication
Task 5. Editing corrections

8.2 Finds

Selection of pottery groups followed by quantification, tabulation and discussion in report text . Ceramic building material data requires computerisation. If necessary some registered finds and building material may be selected to illustrate the full sequence report.

Further work required:

Task 6. Selection of pottery groups for further study
Task 7. Full quantification of selected groups
Task 8. Analysis and pruduction of graphs and tables for quantified data
Task 9. Write specialist pottery report text
Task 10. Write summary pot report for full sequence text
Task 11. Check and correct pottery illustrations, edit pottery report text
Task 12. Selection of registered finds and BM for illustration
Task 13. Computerisation of BM data sheets
Task 14. Summary of BM and registered finds for full sequence text (inc. Samian stamp report)

8.3 Environmental

Some botanical samples from SNY 97 need to be scanned and full analysis should be undertaken for selected samples from both sites. Further analysis of animal bone from the site will be confined to study of a single cremated deposit. Sub-samples of the sediment monoliths will be subjected to further testing. The results of this further analysis will be integrated into the full sequence report.

Further work required:

Task 15. Identification and Recording of four dry flots and three wet flots
Task 16.Scanning of 7 remaining flots from SNY97
Task 17.Identification and Recording of five dry flots
Task 18. Time for analysis of dry flots assessed at analysis stage if considered necessary
Task 19. Computer Input and Table Compilation
Task 20. Analysis of Results
Task 20. Botanical Research
Task 21.Preparation of Botanical summary for full sequence report
Task 22. Animal Bone identification
Task 23. Phosphate testing of monolith subsamples
Task 24. Loss on ignition and Magnetic Susceptibility of monolith subsamples
Task 25. Pollen analysis of monolith subsamples
Task 26. Diatom analysis of monolith subsamples

8.4 Graphics

Illustration of the pottery groups selected for study, possible illustration of registered finds (including quernstones and Samian stamps) and refining of digitised phase and location plans (potentially interchangable between the two proposed reports) are the principal graphical requirements.

Further work required:

Task 27. Illustration of pottery selected for specialist pottery report
Task 28. Illustration of other finds for full sequence report
Task 29. Production of phase and location plans for both reports

8.5 Photography

Photographic illustration of finds is currently deemed unnecessary. Some photographs may be required to illustrate the full sequence report.

Further work required:

Task 30. Production of photographic plates for full sequence publication

8.6 Editing

Further work required:

Task 31. Editing publication text of specialist pottery report
Task 32. Editing publication text of full sequence report

8.7 Project Management

Further work required:

Task 33. Organisational mangement

8.8 Publication

Further work required:

Task 34. Publication of full sequence report in county journal, report length c.15 pages.
Task 35. Publication of specialist pottery report in *Journal of Roman Pottery Studies*, report length c.15 pages

8.9 Archiving

Following completion of publication text(s) the archival material will be prepared for long term storage and transported to the proposed place of long-term curation (Hall Place Museum, Bexley).

Task 36. Preparation of archival material for long-term storage
Task 37. Transport to Hall Place

Correlation Table of the Research Aims addressed by each Task

	RA 1	RA 2	RA 3	RA 4	RA 5	RA 6	RA 7	RA 8	RA 9	RA 10	RA 11	RA 12	RA 13	RA 14	RA 15	RA 16	RA 17	RA 18	RA 19	RA 20
TASK 1												X				X		X		
TASK 2	X	X	X			X	X	X	X				X				X		X	X
TASK 3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
TASK 4	X	X															X		X	X
TASK 5	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
TASK 6		X		X			X				X						X		X	X
TASK 7		X		X			X				X						X		X	X
TASK 8		X		X			X				X						X		X	X
TASK 9		X		X			X				X						X		X	X
TASK 10		X		X			X				X						X		X	X
TASK 11		X		X			X				X						X		X	X
TASK 12		X	X				X									X	X			
TASK 13		X	X				X									X	X			
TASK 14		X	X	X			X			X	X						X			
TASK 15	X	X	X			X														
TASK 16	X	X	X			X														
TASK 17	X	X	X			X														
TASK 18	X	X	X			X														
TASK 19	X	X	X			X														
TASK 20	X	X	X			X														
TASK 21	X	X	X			X														
TASK 22	X					X														
TASK 23	X					X							X							
TASK 24	X					X							X							
TASK 25	X	X	X			X		X	X				X							
TASK 26	X	X	X			X		X	X				X							
TASK 27		X		X			X				X						X		X	X
TASK 28							X					X					X			
TASK 29	X			X	X							X				X		X		
TASK 30																				
TASK 31		X		X			X				X						X		X	X
TASK 32	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
TASK 33	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
TASK 34	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
TASK 35		X		X			X				X						X		X	X
TASK 36																				
TASK 37																				

9.0 Recommendations for Storage and Curation

By agreement with the curator of Hall Place Museum, Bexley MoLAS proposes to prepare the archive to the standard laid out in MoL (1997), Guidelines for the Preparation of Archaeological Archives to be Deposited with the Museum of London. Hall Place Museum is proposed as the place of long term storage and curation of the archive.

10.0 Bibliography

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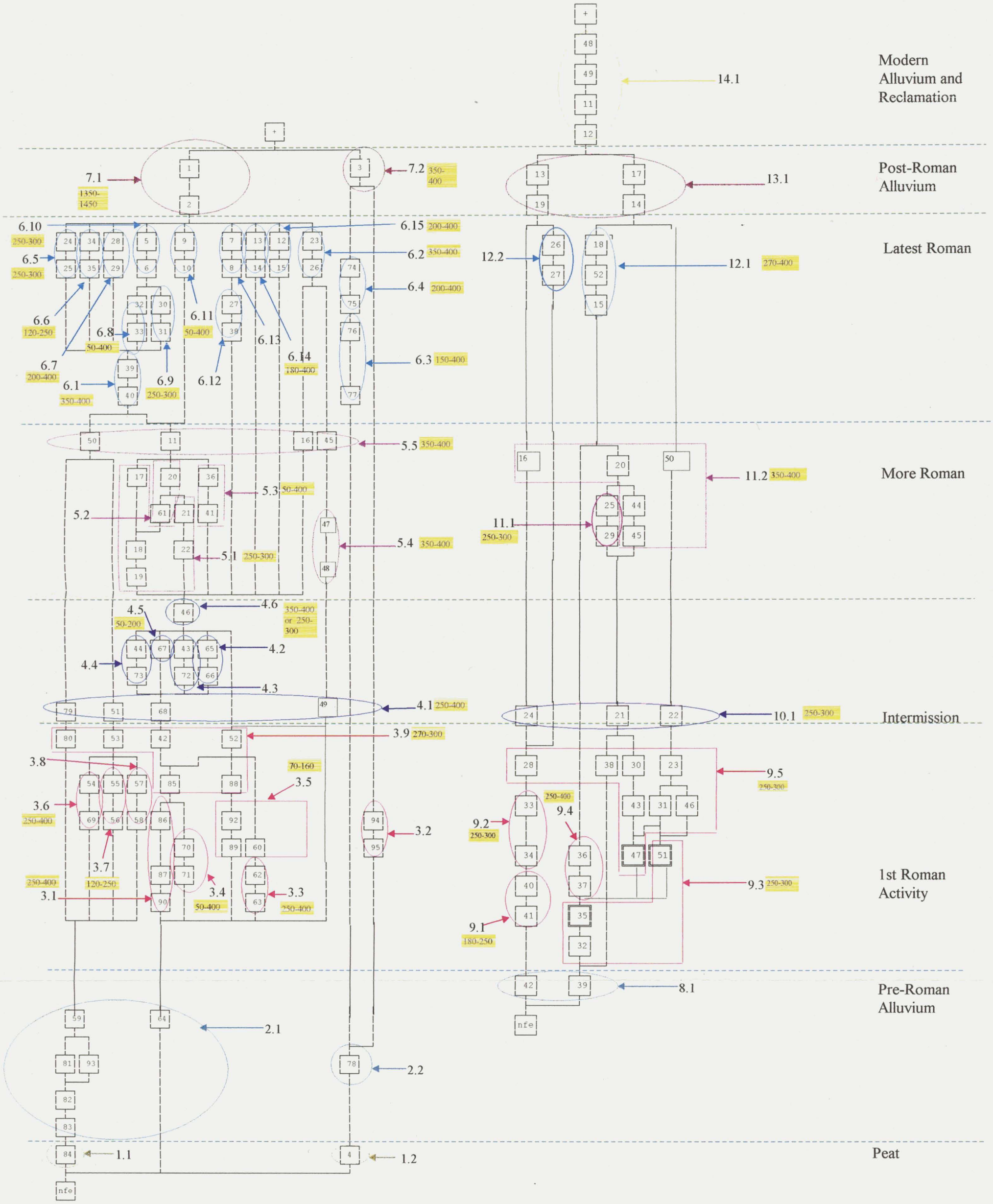
Finally, but not least, the author would like to thank the fieldworkers by whose efforts, in face of rather difficult conditions,this report was made possible - not the least contribution being made by Tom and Bob of Newham Plant Hire .

Appendix 1 - Summary of Groups and Sub-groups

GROUP	SUB-GROUP	TYPE	CONTEXTS	COMMENT
1	1.1	Peat	[84]	S. Trench
	1.2	Peat	[4]	N. Trench
2	2.1	Alluvium	[59],[64],[81],[82], [83],[93]	Pre-Roman, S. Trench
	2.2	Alluvium	[78]	Pre-Roman, N. Trench
3	3.1	Ditch	[86],[87],[90]	N/S aligned S. Trench pot= 250-400
	3.2	Ditch	[94],[95]	N/S aligned N.Trench
	3.3	Pit	[62],[63]	pot=250-400
	3.4	Posthole	[70],[71]	pot=50-400
	3.5	Alluvium	[60], [89], [92]	pot=70-160
	3.6	Hearth	[54],[69]	Cobbled Hearth pot=250-400
	3.7	Posthole	[55],[56]	pot=120-250
	3.8	Posthole	[57],[58]	
	3.9	Occupation Deposits	[42],[52],[[53], [80],[85],[88], [96], [97]	pot= 270-300
4	4.1	Alluvium	[49],[51],[68],[79]	pot=250-400
	4.2	Posthole	[65],[66]	
	4.3	Burning?	[43],[72]	
	4.4	Burning?	[44],[73]	
	4.5	Silt Deposit	[67]	pot=50-200
	4.6	Alluvium	[46]	pot= 350-400 (or 250-300)
5	5.1	Hearth	[17],[18],[19],[21] [22]	Tile hearth with flue pot= 250-300
	5.2	Hearth	[20],[61]	Cobble and tile hearth
	5.3	Posthole	[36],[41]	pot= 50-400
	5.4	Posthole	[47],[48]	pot= 350-400
	5.5	Occupation Deposits	[11],[16], [45], [50]	pot=350-400
6	6.1	Ditch	[39],[40]	pot=350-400
	6.2	Ditch	[23],[26]	pot= 350-400
	6.3	Ditch	[76,[77]	NW/SE ditch N. trench pot = 150-400
	6.4	Ditch	[74],[75]	NE/SW ditch N.Trench pot=200-400
	6.5	Ditch	[24],[25]	Recut of 6.1 pot = 250-300
	6.6	Posthole	[34],[35]	pot= 120-250
	6.7	Posthole	[28],[29]	pot= 200-400
	6.8	Posthole	[32],[33]	pot=50-400
	6.9	Pit?	[30],[31]	pot= 250-300
	6.10	Pit?	[5],[6]	pot= 250-300
	6.11	Pit?	[9],[10]	pot= 50-400
	6.12	Pit?	[27],[38]	
	6.13	Pit?	[7],[8]	
	6.14	Posthole	[13],[14]	pot= 180-400
	6.15	Posthole	[12],[15]	pot= 200-400
7	7.1	Alluvium	[1],[2]	Post-Roman S. Trench pot= 350-400 and 1350-1450
	7.2	Alluvium	[3]	Post-Roman N Trench pot= 350-400
8	8.1	Alluvium	[39],[42]	Evaluation
9	9.1	Ditch	[40],[41]	Evaluation pot = 180-250
	9.2	Ditch	[33], [34]	Evaluation pot = 250-300
	9.3	Pit (?)	[32],[35],[51]	Evaluation pot = 250-300
	9.4	Pit	[36],[37]	Evaluation pot = 250-400

	9.5	Occupation Deposits	[23],[28,[30],[31],[38],[43],[46],[47]	Evaluation pot = 250-300
10	10.1	Alluvium	[21],[22,[24]	Evaluation pot =250-300
11	11.1	Feature	[25],[29]	Evaluation pot = 250-300
	11.2	Occupation Deposits	[16],[20],[44],[45],[50]	Evaluation pot = 350-400
12	12.1	Ditch	[15],[18],[52]	Evaluation pot = 1150-1300 (?intrusive)otherwise 270-400
	12.2	Feature	[26],[27]	Evaluation
13	13.1	Alluvium	[13],[14],17],[19]	Evaluation pot = 350-400 (residual)
14	14.1	Modern deposits	[11],[12],[48],[49]	Evaluation pot = MPOT

Appendix 2 - Annotated Context Matrices



Appendix 3 - Finds Assessments

3.1 Pottery Assessment

Site code (code/year): SWY97 & SNY97
Site address: Summerton Way, Thamesmead
Recorder(s): R P Symonds
Date: 20.8.97
Directory location: p:\bexl\1008\swy97\finds\rpot01.doc

Summary

Total quantity (no. of standard museum boxes or no. of bags): SWY97: 13 boxes; SNY97: 5 boxes
Roman pottery: SWY97: 13 boxes; SNY97: 5 boxes

Spot-dating/computerization according to standard MoLAS methods: Yes

Roman Pottery (SWY97)
Date-range(s): 50-200, 50-250, 50-400 (4), 70-160, 120-250 (2), 150-400, 180-400, 200-400 (3), 250-300 (6), 250-400 (5), 270-300 (2), 270-400, 350-400 (10).
Size of groups (*): 24 x S, 7 x M, 5 x L

Roman Pottery (SNY97)
Date-range(s): 150-250, 180-250, 200-250, 200-400, 250-300 (11), 250-400 (6), 270-400 (5), 350-400 (3).
Size of groups (*): 18 x S, 7 x M, 4 x L

***(small = <30 sherds; medium = 30-100 sherds; large = 100+ sherds; very large = multiple boxes)**

Condition of pottery (both sites):

Almost every context contains some very badly abraded sherds, and these make up between one-quarter and one-third of the pottery, but the rest consists of relatively unabraded medium-sized sherds. Often the abraded sherds look as if they have been waterworn. However, this phenomenon does not appear to have greatly hindered identification of the pottery. There is also a considerable number of burnt sherds; however, although these sherds are sufficiently burnt to show discolouration, this was not a general conflagration on a scale as intensive or as widespread as fires in central London at the Boudican or Hadrianic periods, nor can it be seen specifically as the result of industrial work on the site, such as pottery production or metalworking.

General characteristics/comments

Although there was clearly considerable 1st and 2nd century occupation in the area, which would account for the presence of many pre-Antonine pottery types, none of the few contexts which do not contain late Roman pottery consists of more than a dozen or so sherds, and all of these could to be residual. One substantial context, SNY97 context 31, is dated 200-250. It may be (tenuously) possible to suggest that there were two main phases of late Roman occupation, from *c.* 250-300 and from *c.* 350-400 AD, as represented by the middle and lower thirds of Graph 1 (SWY97), and by the central part and the bottom sixth of Graph 2 (SNY97), respectively.

The date-ranges of the two sites are as follows:

SWY97							**SNY97**				
	Late date							Late date			
Early date	160	200	250	300	400	Total	Early date	250	300	400	Total
50		1	1		3	5					
70	1					1					
120			2			2					
							150	1			1
180					1	1	180	1			1
200					3	3	200	1		1	2
250				6	5	11	250		11+	6	17
270				2	1	3	270			5	5
350					10	10*	350			3	3
Total	1	1	3	8	23	36	Total	3	11	15	29

Table 1. Date-ranges represented, by numbers of contexts, in the two sites.
(includes context 46, which may be 250-300; + includes context 38, which may be 180-250 - see Tables 3-6).*

Both Table 1 and Graphs 1 and 2 show that the material from SNY97 is slightly earlier than that from SWY97, or perhaps may be said to belong more to the earlier phase of occupation.

It is important to recognise, however, that the actual amount of late Roman pottery upon which the dating of each context is based is invariably a relatively low proportion of the context as a whole. This is clearly illustrated in Graphs 3 to 7, which show the date-ranges of all of the pottery types recorded in five largest contexts. Each graph is shown in two versions, (a) sorted by Early date (TPQ), and (b) sorted by Late date (TAQ), and both versions are accompanied by a histogram along the left-hand side showing the size of each pottery type in number of sherds.

Perhaps the most important remark to make is that, contrary to the suggestion made in the initial evaluation of the pottery for PCA, there is no evidence in the pottery itself

of pottery production at the site, and there is no evidence of any particular connection with Oxfordshire wares. On the former point, while there is much burnt material, this includes the full range of the pottery present, including wares brought from some distance, and there is no predominance, burnt or unburnt, of any fabric which might have been locally produced. On the latter point, for a late Roman site in southern Britain there is in fact a perfectly normal proportion of Oxfordshire wares present, but there is also, by contrast, a surprisingly high proportion of Much Hadham wares. Whereas in London Hadham ware is, on average, outnumbered by both Oxfordshire wares and by Nene Valley wares by more than 6 to 1, and even by Mayen ware, Eifelkeramik and Portchester D by more than 2 to 1, at Thamesmead, as can be seen in Table 2, Hadham ware is the most numerous of any of these categories. Table 2 compares only these wares by themselves; the data for London is derived from tables generated for all London pottery in the MoLAS Oracle database. Although it may contain some material from some small sites in Greater London, the overwhelming majority of that material is from Southwark and the City of London, and it contains material from contexts dated to all phases of the Roman period.

	London (*)				Thamesmead			
	Rows	% Rows	Sherds	% Sherds	Rows	% Rows	Sherds	% Sherds
Oxfordshire wares OXMO, OXMOB, OXPA, OXRC, OXWC, OXWS, OXWW	1257	41.5%	1694	38.9%	51	38.1%	89	39.6%
Nene Valley wares NVCC, NVCCP, NVCCW, NVMO, NVPA, NVWW	1200	39.6%	1830	42.0%	3	2.2%	3	1.3%
late imported wares EIFL, MAYEN	54	1.8%	67	1.5%	9	6.7%	14	6.2%
Portchester D ware PORD	320	10.6%	492	11.3%	16	11.9%	24	10.7%
Much Hadham ware MHAD	199	6.6%	271	6.2%	55	41.0%	95	42.2%
Totals	3030	100.0 %	4354	100.0%	134	100.0 %	225	100.0%

Table 2. Comparison of the relative proportions of some late Roman pottery types found at london and Thamesmead.

* The statistics for London are the totals for all pottery represented in the MoLAS Oracle database as of 17.7.1997.

The very low proportion of Nene Valley wares is equally interesting: the above table seems to suggest that whereas Oxfordshire wares are remarkably constant between London and Thamesmead, Nene Valley wares are almost completely displaced by Much Hadham wares at Thamesmead. The logic of such a displacement might seem to be geographically obvious, since Hadham lies almost on a direct line between Thamesmead and the Nene Valley, with London off to the west. However, that

concept must include the assumption that the pottery from Hadham crossed the Thames well below London, rather than via the bridge at London.
In any case, the high amounts of Hadham ware at Thamesmead will certainly contribute to a better understanding of the distribution of the ware.

Although the numbers are obviously very small at Thamesmead, the proportions of late imported wares and of Portchester D shown in table 1 are also interesting. Whereas (like Oxfordshire wares) Portchester D ware is remarkably constant at London and Thamesmead, the percentages of Eifelkeramik and Mayen ware are significantly higher at Thamesmead. This could imply two conclusions: (1) the distribution of these late coarse wares, which all have similar typological ranges, clearly did not function in the same manner; and (2), in the late Roman period, a site as far away from contemporary urban centres as that at Thamesmead need not have been any less rich in status.

Another aspect worth addressing is the possible role of the site at Thamesmead as a stopping place for boats or shipsheading up-river towards London. While the presence of Eifelkeramik and Mayen ware might be thought to encourage that view, the actual numbers of sherds are really too low to support this idea with any confidence. The total (by sherd count) of 91.2% Romano-British wares compared to imported wares for both sites (see Table 8) is substantially higher than for almost any London site - for the whole of London the figure is 68.6%, but interpretation of such figures must be qualified by noting that imported wares are substantially less important in the late Roman period. In fact this is an extremely difficult question to answer using the evidence of the pottery alone; it can only be said that unlike some port sites at London, there is no evidence for large-scale unloading of pottery at Thamesmead.

Potential

Key groups: Tables 3-6 show that there are a number of very substantial contexts, and these include quite a number of potentially drawable vessels, if their publication were to be contemplated. In particular SNY97 context 33 and SWY97 context 52 (250-300) and SWY97 contexts 16, 39 and 46 (350-400) could all be used to illustrate 3rd and 4th century pottery, respectively, from Thamesmead. See Graphs 3-7 (graph3.doc to graph7.doc).

Vessels of individual importance:

The vessels listed below are worthy of illustration.

SWY97

Context	Fabric	Form	Dec	Count	
1	GROG	4M	-	1	
	Grog-tempered ware flanged bowl with unusual fabric/form.				
1	MHAD	2/3	RPD	1	
	Hadham ware jar/bowl with thin slightly hooked rim and red painted band at neck.				

2	MAYEN	2X	-	1	
	Mayen ware lid-seated jar; Gose 1950 form 543.				
3	MAYEN	2X	-	1	
	Mayen ware lid-seated jar; Gose 1950 form 542.				
11	MHAD	4DR 38	-	1	
	Hadham ware flanged bowl (Drag form 38) with high rim; very abraded but a good example.				
16	MHAD	4	STD	2	
	Hadham ware bowl with stamped decoration.				
16	PORD	9A	-	1	
	Portchester 'D' ware lid; cf Fulford 1975 type 173.1.				
46	GROG	2	NC D	5	
	Grog-tempered ware jar with double rows of impressed notches.				
46	GROG	2T	-	1	
	Grog-tempered ware necked jar.				
62	GROG	2R	-	1	
	Grog-tempered ware narrow-mouthed jar; with pale fabric/surfaces and dark grog; ?burnt.				
62	GROG	2T	-	1	
	Grog-tempered ware necked jar with high flaring rim.				

SNY97

Context	Fabric	Form	Dec	Count	
30	NKGW	2T	-	3	
	North Kent grey ware necked jar with broad flaring rim; a large vessel for NKGW.				
33	PATCH	2T	-	1	
	Patchgrove ware necked jar, very abraded.				
35	NKSH	2M	NC D	1	
	North Kent shelly ware storage jar with notched pattern of m's at shoulder.				
38	PATCH	2T	-	1	
	Patchgrove ware necked carinated jar.				

Dating and other aspects:

The Thamesmead material has considerable potential for the understanding of late Roman pottery in the Thames estuary. The dating of the fine wares from Hadham, the Nene Valley and Oxfordshire, and the coarse wares from southern Britain and the Rhineland could all be improved by material from sites such as this; the material from this site could profitably be examined in rather more depth than is possible in an assessment report.

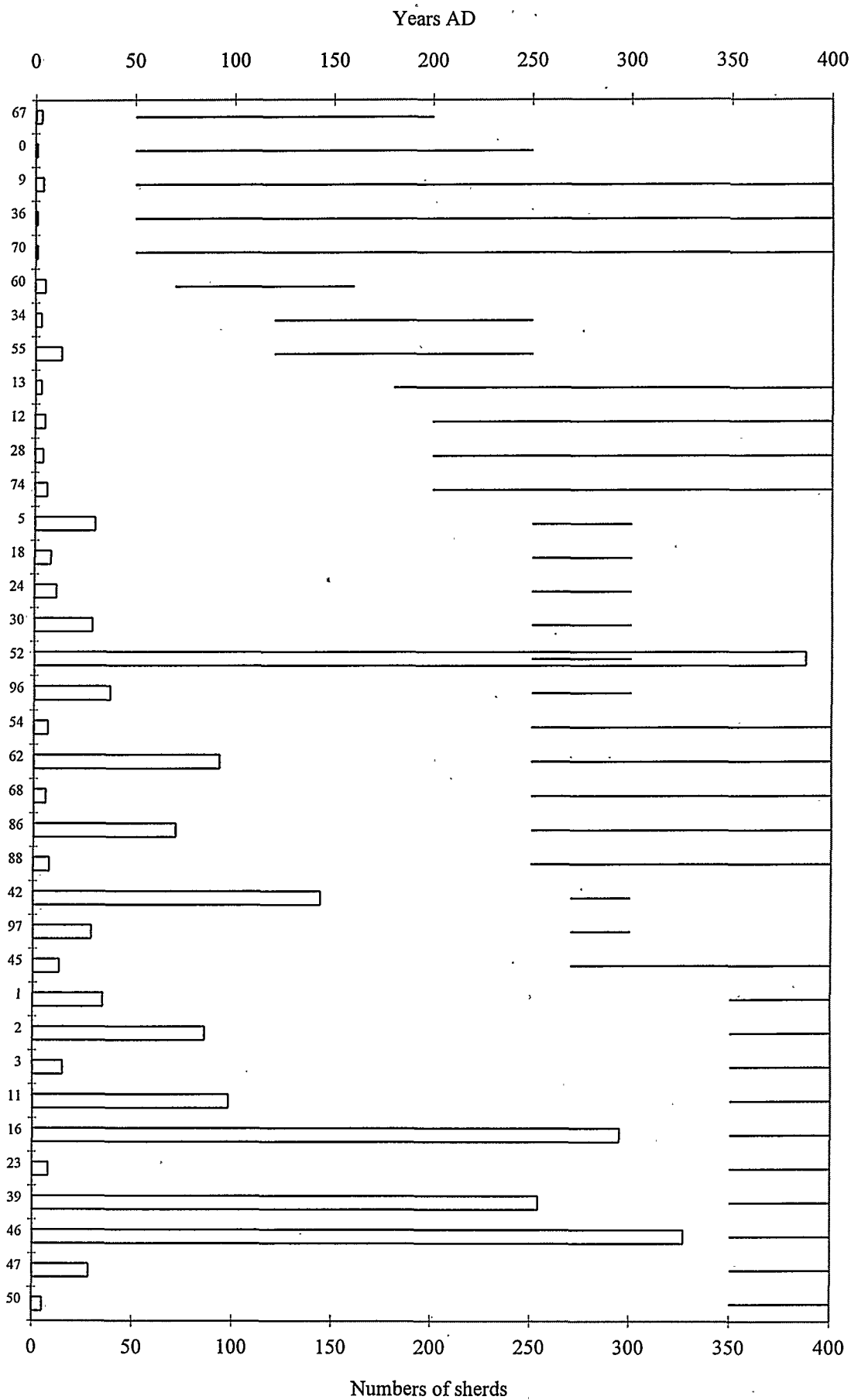
From the point of view of Roman pottery studies, Thamesmead lies in an area which is tantalisingly unknown. All of the nearest sites mentioned in Pollard 1988, for example, can be associated with Watling Street, the main London-Canterbury thoroughfare, rather than with settlement alongside the Thames, or river transport.

The Roman roads in the vicinity of Thamesmead seem to radiate outwards from London, where there is known to have been a river crossing. However, the pottery assemblage at Thamesmead seems to indicate that material was arriving from north of the river in a direct manner, without passing via London, as well as arriving in small quantities from Germany and in larger quantities from other parts of southern Britain.

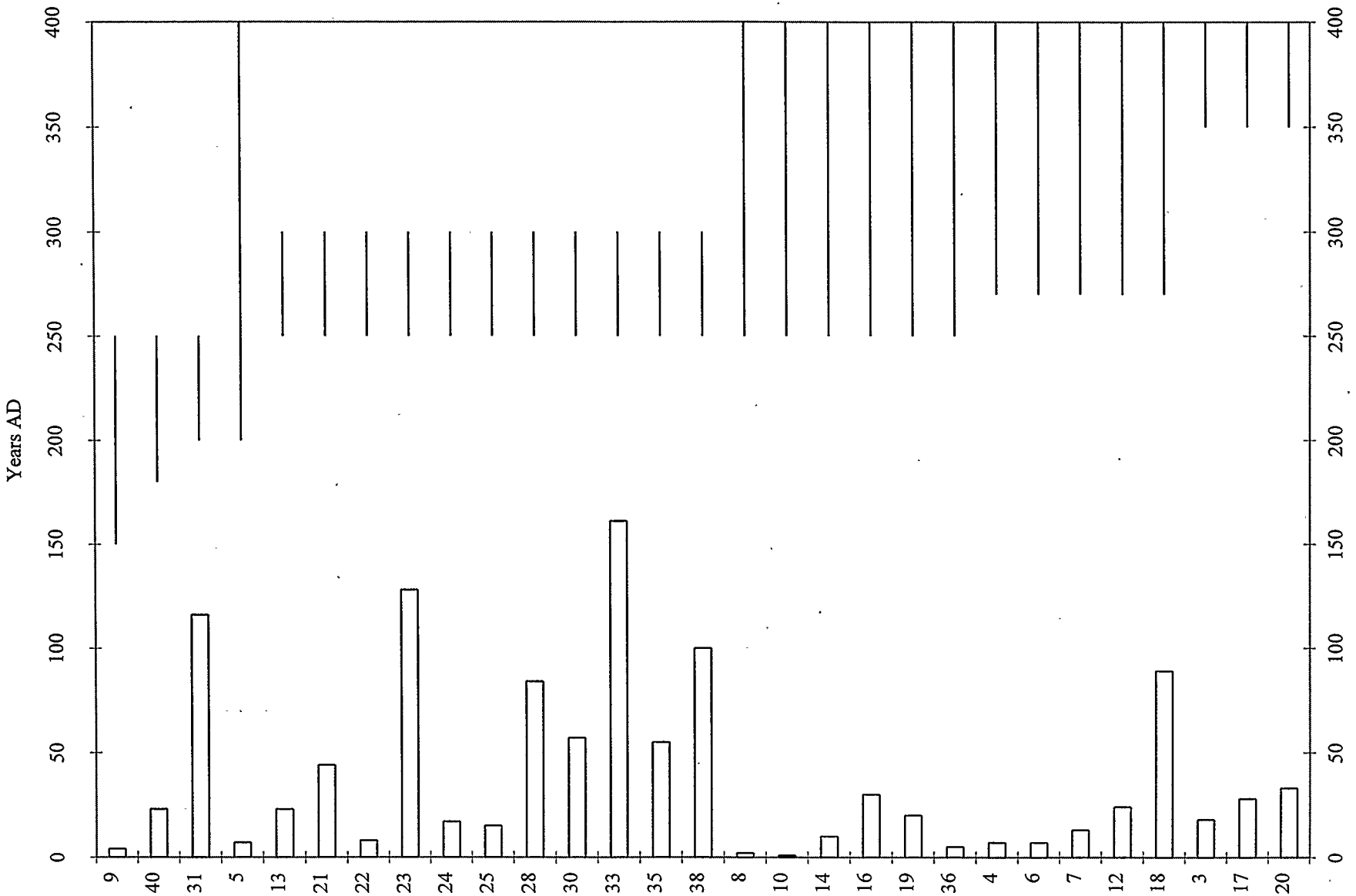
The publication of this pottery therefore carries the possiblity of altering current perceptions on the movements of pottery in northern Kent, eastern London and the Thames Estuary, particularly in the later Roman period. The dating of fine wares from Hadham, the Nene Valley and Oxfordshire, and coarse wares from southern Britain and the Rhineland could all be improved by material from this kind of site. It is useful to see which of the types commonly found in London, such as Highgate and Verulamium Region wares, have travelled so far eastwards, and which have not. Also Thamesmead has provided a very useful body of grog-tempered coarse wares which are likely to have been made relatively locally, which have considerable potential to provide better understanding of the continuity of these wares in the region - complementary to current work on the same subject involving recent sites in the City of London and Southwark (Rayner et al unpublished; Rayner & Symonds forthcoming). Lastly it would be useful to examine the question of residuality at a site of this nature: there are virtually no contexts which do not contain some later Roman pottery, yet there is plenty of evidence for earlier occupation in the residual material present in almost every context.

Recommendations for further work

A report on this material should be published in, for example, *Journal of Roman Pottery Studies*. For this purpose a series of groups should be illustrated in full - including all of the drawable types represented. The five contexts shown in graphic form here would be suitable for this purpose, although stratigraphically these might be better amalgamated or replaced with other contexts. If each group would be represented by a selection of vessels.These are likely to be quite simple drawings for the most part. Also, there are three stamps on samian ware which are potentiallyworth drawing, consultation with a samian specialist will be required.



Graph1: Date-ranges and sizes of all contexts in SWY97 (Roman pottery only)



Graph 2: Date-ranges and sizes of all contexts in SNY97 (Roman pottery only)

Table 3: Dating table for SWY97, in context order.

Context	TPQ	TAQ	Size	Count	Comments
0	50	250	S	1	
1	350	400	M	35	Context contains MPOT, dated 1350-1450 (R Stephenson).
2	350	400	M	86	Context was 2, 2A, 2B & 2C. These have been amalgamated, but each had same date, 350-400.
3	350	400	S	15	
5	250	300	M	30	
9	50	400	S	4	
11	350	400	M	98	
12	200	400	S	5	
13	180	400	S	3	
16	350	400	L	295	
18	250	300	S	8	
23	350	400	S	8	
24	250	300	S	11	
28	200	400	S	4	
30	250	300	S	29	
32	50	400	S	2	Env sample 4
34	120	250	S	3	
36	50	400	S	1	
39	350	400	L	254	
42	270	300	L	144	
45	270	400	S	13	
46	350	400	L	327	Date based on PORD only; otherwise 250-300 (no OXRC/OXWS/OXMO).
47	350	400	S	28	
50	350	400	S	5	
52	250	300	L	387	
54	250	400	S	7	
55	120	250	S	13	
60	70	160	S	5	
62	250	400	M	93	
67	50	200	S	3	
68	250	400	S	6	
70	50	400	S	1	
74	200	400	S	6	
76	150	400	S	2	Env sample 10
86	250	400	M	71	
88	250	400	S	8	
96	250	300	M	38	
97	270	300	S	29	
				2078	

Table 4: Date-ranges for SWY97, in date order.

Context	TP Q	TA Q	Size	Count	Comments
67	50	200	S	3	
0	50	250	S	1	
9	50	400	S	4	
32	50	400	S	2	Env sample 4
36	50	400	S	1	
70	50	400	S	1	
60	70	160	S	5	
34	120	250	S	3	
55	120	250	S	13	
76	150	400	S	2	Env sample 10
13	180	400	S	3	
12	200	400	S	5	
28	200	400	S	4	
74	200	400	S	6	
5	250	300	M	30	
18	250	300	S	8	
24	250	300	S	11	
30	250	300	S	29	
52	250	300	S	387	
96	250	300	M	38	
54	250	400	S	7	
62	250	400	M	93	
68	250	400	S	6	
86	250	400	M	71	
88	250	400	S	8	
42	270	300	L	144	
97	270	300	S	29	
45	270	400	S	13	
1	350	400	M	35	Context contains MPOT, dated 1350-1450 (R Stephenson).
2	350	400	M	86	Context was 2, 2A, 2B & 2C. These have been amalgamated, but each had same date, 350-400.
3	350	400	S	15	
11	350	400	S	98	
16	350	400	L	295	
23	350	400	S	8	
39	350	400	L	254	
46	350	400	L	327	Date based on PORD only; otherwise 250-300 (no OXRC/OXWS/OXMO).
47	350	400	S	28	
50	350	400	S	5	
				2078	

Table 5: Dating table for SNY97, in context order.

Context	TPQ	TAQ	Size	Count	Comments
3	350	400	S	18	
4	270	400	S	7	
5	200	400	S	7	Residual Context contains probable post-Roman CBM.
6	270	400	S	7	
7	270	400	S	13	?Post-Roman. ?Contaminated with 10 & 12.
8	250	400	S	2	
9	150	250	S	4	
10	250	400	S	1	Sherd marked 10 in bag with both 10 & 12 labels, & many shs marked 12. ?Contaminated.
12	270	400	S	24	Context contains MPOT. ?Contaminated - see 10.
13	250	300	S	23	
14	250	400	S	10	
16	250	400	M	30	
17	350	400	S	28	
18	270	400	M	89	Residual
19	250	400	S	20	
20	350	400	M	33	
21	250	300	M	44	
22	250	300	S	8	
23	250	300	L	128	
24	250	300	S	17	
25	250	300	S	15	
28	250	300	M	84	
30	250	300	M	57	
31	200	250	L	116	
33	250	300	L	161	
35	250	300	M	55	
36	250	400	S	5	
38	250	300	L	100	Date based on 1 sh ?AHFA only; otherwise 180-250.
40	180	250	S	23	
				1129	

Table 6: Dating table for SNY97, in date order.

Context	TPQ	TAQ	Size	Count	Comments
9	150	250	S	4	
40	180	250	S	23	
31	200	250	L	116	
5	200	400	S	7	Residual Context contains probable post-Roman CBM.
13	250	300	S	23	
21	250	300	M	44	
22	250	300	S	8	
23	250	300	L	128	
24	250	300	S	17	
25	250	300	S	15	
28	250	300	M	84	
30	250	300	M	57	
33	250	300	L	161	
35	250	300	M	55	
38	250	300	L	100	Date based on 1 sh ?AHFA only; otherwise 180-250.
8	250	400	S	2	
10	250	400	S	1	Sherd marked 10 in bag with both 10 & 12 labels, & many shs marked 12. ?Contaminated.
14	250	400	S	10	
16	250	400	M	30	
19	250	400	S	20	
36	250	400	S	5	
4	270	400	S	7	
6	270	400	S	7	
7	270	400	S	13	?Post-Roman. ?Contaminated with 10 & 12.
12	270	400	S	24	Context contains MPOT. ?Contaminated - see 10.
18	270	400	M	89	Residual
3	350	400	S	18	
17	350	400	S	28	
20	350	400	M	33	
				1129	

Tables 7 to 12: Roman pottery fabric and form tables for SWY97 and SNY97.

Table 7 Fabric	Fabric code	SWY97 Rows	% Rows	Sherds	% Sherds	SNY97 Rows	% Rows	Sherds	% Sherds	SWY97 & SNY97 Rows	% Rows	Sherds	% Sherds
Alice Holt, Farnham ware	AHFA	69	9.0%	228	11.0%	48	10.1%	95	8.4%	117	9.4%	323	10.1%
Alice Holt, Surrey ware	AHSU	9	1.2%	17	0.8%	4	0.8%	6	0.5%	13	1.0%	23	0.7%
miscellaneous amphorae	AMPH	4	0.5%	6	0.3%					4	0.3%	6	0.2%
Baetican amphorae, early	BAETE	2	0.3%	2	0.1%					2	0.2%	2	0.1%
Baetican amphorae, late	BAETL	5	0.6%	14	0.7%	7	1.5%	11	1.0%	12	1.0%	25	0.8%
Black-burnished ware, type 1	BB1	34	4.4%	64	3.1%	10	2.1%	17	1.5%	44	3.5%	81	2.5%
Black-burnished ware, type 2	BB2	38	4.9%	63	3.0%	21	4.4%	31	2.7%	59	4.7%	94	2.9%
Black-burnished ware, type 2, fine	BB2F	12	1.6%	17	0.8%	7	1.5%	8	0.7%	19	1.5%	25	0.8%
Black-burnished style ware	BBS	40	5.2%	86	4.1%	30	6.3%	58	5.1%	70	5.6%	144	4.5%
Cam form 189 amphorae	C189	3	0.4%	3	0.1%	1	0.2%	1	0.1%	4	0.3%	4	0.1%
miscellaneous colour-coated ware	CC	6	0.8%	6	0.3%	1	0.2%	1	0.1%	7	0.6%	7	0.2%
Central Gaulish black-coated ware	CGBL					1	0.2%	1	0.1%	1	0.1%	1	0.0%
miscellaneous coarse ware	COAR	5	0.6%	6	0.3%	2	0.4%	4	0.4%	7	0.6%	10	0.3%
Colchester white ware	COLWW	2	0.3%	2	0.1%	1	0.2%	3	0.3%	3	0.2%	5	0.2%
Eifelkeramik	EIFL	2	0.3%	2	0.1%	1	0.2%	2	0.2%	3	0.2%	4	0.1%
early Roman sandy ware, B	ERSB	5	0.6%	13	0.6%					5	0.4%	13	0.4%
miscellaneous fine reduced ware	FINE	24	3.1%	36	1.7%	17	3.6%	33	2.9%	41	3.3%	69	2.2%
fine micaceous ware	FMIC	3	0.4%	3	0.1%	1	0.2%	2	0.2%	4	0.3%	5	0.2%
Gauloise 1 amphora fabric	GAUL1	9	1.2%	30	1.4%	10	2.1%	31	2.7%	19	1.5%	61	1.9%
grog-tempered ware	GROG	31	4.0%	109	5.2%	23	4.8%	46	4.1%	54	4.3%	155	4.8%
grog/shell-tempered ware	GROGSH	9	1.2%	18	0.9%	7	1.5%	12	1.1%	16	1.3%	30	0.9%
Hoo ware	HOO	7	0.9%	12	0.6%	7	1.5%	16	1.4%	14	1.1%	28	0.9%
Highgate ware, C	HWC	31	4.0%	64	3.1%	16	3.4%	19	1.7%	47	3.8%	83	2.6%
Highgate ware, C, late sandy type	HWC+	6	0.8%	7	0.3%	1	0.2%	1	0.1%	7	0.6%	8	0.2%
Cologne colour-coated ware	KOLN	2	0.3%	2	0.1%					2	0.2%	2	0.1%
local oxidised ware	LOXI					2	0.4%	2	0.2%	2	0.2%	2	0.1%
late Roman marbled ware	LRMA	1	0.1%	2	0.1%					1	0.1%	2	0.1%

Mayen ware	MAYEN	4	0.5%	8	0.4%	2	0.4%	2	0.2%	6	0.5%	10	0.3%
Much Hadham ware	MHAD	42	5.5%	69	3.3%	13	2.7%	26	2.3%	55	4.4%	95	3.0%
North French/S.E.English ware	NFSE	7	0.9%	9	0.4%	1	0.2%	1	0.1%	8	0.6%	10	0.3%
North Kent grey ware	NKGW	17	2.2%	39	1.9%	11	2.3%	22	1.9%	28	2.2%	61	1.9%
North Kent shelly ware	NKSH	9	1.2%	53	2.6%	11	2.3%	72	6.4%	20	1.6%	125	3.9%
Nene Valley colour-coated ware, white	NVCCW	3	0.4%	3	0.1%					3	0.2%	3	0.1%
Oxfordshire colour-coated ware	OXCC					1	0.2%	1	0.1%	1	0.1%	1	0.0%
miscellaneous oxidised ware	OXID	28	3.6%	92	4.4%	31	6.5%	94	8.3%	59	4.7%	186	5.8%
miscellaneous oxidised ware, fine	OXIDF	6	0.8%	10	0.5%					6	0.5%	10	0.3%
Oxfordshire mortarium white fabric	OXMO	5	0.6%	16	0.8%	1	0.2%	1	0.1%	6	0.5%	17	0.5%
Oxfordshire parchment ware	OXPA					1	0.2%	2	0.2%	1	0.1%	2	0.1%
Oxfordshire red/brown colour-coated ware	OXRC	28	3.6%	45	2.2%	11	2.3%	20	1.8%	39	3.1%	65	2.0%
Oxfordshire white-slipped ware	OXWS	3	0.4%	3	0.1%	2	0.4%	2	0.2%	5	0.4%	5	0.2%
Patchgrove ware	PATCH	9	1.2%	23	1.1%	8	1.7%	11	1.0%	17	1.4%	34	1.1%
Portchester D ware	PORD	12	1.6%	19	0.9%	4	0.8%	5	0.4%	16	1.3%	24	0.7%
miscellaneous red ware with white slip	RWS	10	1.3%	22	1.1%	8	1.7%	16	1.4%	18	1.4%	38	1.2%
miscellaneous samian ware	SAM	1	0.1%	1	0.0%					1	0.1%	1	0.0%
Central Gaulish samian ware	SAMCG	35	4.5%	57	2.7%	32	6.7%	45	4.0%	67	5.4%	102	3.2%
East Gaulish samian ware	SAMEG	14	1.8%	20	1.0%	8	1.7%	11	1.0%	22	1.8%	31	1.0%
South Gaulish samian ware	SAMLG	7	0.9%	9	0.4%	1	0.2%	1	0.1%	8	0.6%	10	0.3%
Montans samian ware	SAMMT	2	0.3%	3	0.1%					2	0.2%	3	0.1%
Les Martres-de-Veyre samian ware	SAMMV					2	0.4%	2	0.2%	2	0.2%	2	0.1%
miscellaneous sandy ware	SAND	118	15.3%	662	31.9%	78	16.4%	346	30.6%	196	15.7%	1008	31.4%
miscellaneous shell-tempered ware	SHEL	9	1.2%	24	1.2%	7	1.5%	12	1.1%	16	1.3%	36	1.1%
Thameside, Kent ware	TSK	12	1.6%	22	1.1%	14	2.9%	26	2.3%	26	2.1%	48	1.5%
Verulamium coarse white-slipped ware	VCWS	4	0.5%	4	0.2%					4	0.3%	4	0.1%
Verulamium-region grey ware	VRG	5	0.6%	6	0.3%					5	0.4%	6	0.2%
Verulamium-region marbled ware	VRMA	1	0.1%	1	0.0%					1	0.1%	1	0.0%
Verulamium-region white ware	VRW	20	2.6%	46	2.2%	10	2.1%	11	1.0%	30	2.4%	57	1.8%
Totals		770	100.0%	2078	100.0%	475	100.0%	1129	100.0%	1245	100.0%	3207	100.0%

Table 8		SWY97				SNY97				SWY97 & SNY97			
Origin	Origin code	Rows	% Rows	Sherds	% Sherds	Rows	% Rows	Sherds	% Sherds	Rows	% Rows	Sherds	% Sherds
imported wares	IMP	98	12.7%	168	8.1%	66	13.9%	108	9.6%	164	13.2%	276	8.6%
miscellaneous wares	MISC	6	0.8%	6	0.3%	1	0.2%	1	0.1%	7	0.6%	7	0.2%
Romano-British wares	RB	666	86.5%	1904	91.6%	408	85.9%	1020	90.3%	1074	86.3%	2924	91.2%
Totals		770	100.0%	2078	100.0%	475	100.0%	1129	100.0%	1245	100.0%	3207	100.0%

Table 9

Ware	Ware code	Rows	% Rows	Sherds	% Sherds	Rows	% Rows	Sherds	% Sherds	Rows	% Rows	Sherds	% Sherds
amphorae	AMPH	23	3.0%	55	2.6%	18	3.8%	43	3.8%	41	3.3%	98	3.1%
Black-burnished-type wares	BBTP	136	17.7%	252	12.1%	82	17.3%	140	12.4%	218	17.5%	392	12.2%
fine imported wares	FNMP	3	0.4%	4	0.2%	1	0.2%	1	0.1%	4	0.3%	5	0.2%
fine Romano-British wares	FNRB	74	9.6%	118	5.7%	25	5.3%	47	4.2%	99	8.0%	165	5.1%
fine reduced wares	FNRD	44	5.7%	78	3.8%	29	6.1%	57	5.0%	73	5.9%	135	4.2%
miscellaneous wares	MISC	6	0.8%	6	0.3%	1	0.2%	1	0.1%	7	0.6%	7	0.2%
oxidised wares	OXID	105	13.6%	229	11.0%	70	14.7%	156	13.8%	175	14.1%	385	12.0%
oxidised mortaria	OXMR	5	0.6%	16	0.8%	1	0.2%	1	0.1%	6	0.5%	17	0.5%
reduced wares	REDU	243	31.6%	997	48.0%	147	30.9%	467	41.4%	390	31.3%	1464	45.7%
samian wares	SAM	59	7.7%	90	4.3%	43	9.1%	59	5.2%	102	8.2%	149	4.6%
tempered wares	TEMP	72	9.4%	233	11.2%	58	12.2%	157	13.9%	130	10.4%	390	12.2%
Totals		770	100.0%	2078	100.0%	475	100.0%	1129	100.0%	1245	100.0%	3207	100.0%

Table 10

Source	Source code	Rows	% Rows	Sherds	% Sherds	Rows	% Rows	Sherds	% Sherds	Rows	% Rows	Sherds	% Sherds
Britain	BRIT	666	86.5%	1904	91.6%	408	85.9%	1020	90.3%	1074	86.3%	2924	91.2%
Central Gaul	CGAUL	35	4.5%	57	2.7%	35	7.4%	48	4.3%	70	5.6%	105	3.3%
East Gaul	EGAUL	22	2.9%	32	1.5%	11	2.3%	15	1.3%	33	2.7%	47	1.5%
Gaul	GAUL	2	0.3%	3	0.1%		0.0%		0.0%	2	0.2%	3	0.1%
Mediterranean	MED	7	0.9%	9	0.4%	1	0.2%	1	0.1%	8	0.6%	10	0.3%
North Gaul	NGAUL	7	0.9%	9	0.4%	1	0.2%	1	0.1%	8	0.6%	10	0.3%
Rhône Valley	SEGAL	9	1.2%	30	1.4%	10	2.1%	31	2.7%	19	1.5%	61	1.9%
South Gaul	SGAUL	9	1.2%	12	0.6%	1	0.2%	1	0.1%	10	0.8%	13	0.4%
Spain	SPAIN	7	0.9%	16	0.8%	7	1.5%	11	1.0%	14	1.1%	27	0.8%
unknown	UNK	6	0.8%	6	0.3%	1	0.2%	1	0.1%	7	0.6%	7	0.2%
Totals		770	100.0%	2078	100.0%	475	100.0%	1129	100.0%	1245	100.0%	3207	100.0%

Table 11 Form	Form code	SWY97 Rows	SWY97 % Rows	SWY97 Sherds	SWY97 % Sherds	SNY97 Rows	SNY97 % Rows	SNY97 Sherds	SNY97 % Sherds	SWY97 & SNY97 Rows	SWY97 & SNY97 % Rows	SWY97 & SNY97 Sherds	SWY97 & SNY97 % Sherds
unidentifiable forms	-	120	15.6%	343	16.5%	93	19.6%	215	19.0%	213	17.1%	558	17.4%
miscellaneous flagons	1	4	0.5%	7	0.3%	5	1.1%	6	0.5%	9	0.7%	13	0.4%
cupped-mouthed ring-necked flagons	1B7-9	1	0.1%	1	0.0%					1	0.1%	1	0.0%
miscellaneous jars	2	197	25.6%	884	42.5%	104	21.9%	461	40.8%	301	24.2%	1345	41.9%
miscellaneous jars/bowls	2/3	29	3.8%	66	3.2%	33	6.9%	68	6.0%	62	5.0%	134	4.2%
bead-rimmed jars	2A	19	2.5%	39	1.9%	9	1.9%	14	1.2%	28	2.2%	53	1.7%
finely-moulded bead-rimmed jars	2A15					2	0.4%	2	0.2%	2	0.2%	2	0.1%
lid seated bead-rimmed jars	2A16	3	0.4%	8	0.4%					3	0.2%	8	0.2%
later bead-rimmed jars	2AX	2	0.3%	3	0.1%					2	0.2%	3	0.1%
Black-burnished-type everted-rimmed jars	2F	24	3.1%	50	2.4%	21	4.4%	41	3.6%	45	3.6%	91	2.8%
everted `cavetto'-rim jars	2F13	3	0.4%	4	0.2%	3	0.6%	4	0.4%	6	0.5%	8	0.2%
necked jars; usually with cordon at shoulder	2G	2	0.3%	2	0.1%					2	0.2%	2	0.1%
rolled-rimmed storage jars	2M	3	0.4%	6	0.3%	3	0.6%	4	0.4%	6	0.5%	10	0.3%
necked jars with high rounded shoulder	2N	1	0.1%	1	0.0%					1	0.1%	1	0.0%
narrow-necked jars/flasks	2R	6	0.8%	6	0.3%					6	0.5%	6	0.2%
miscellaneous necked jars	2T	44	5.7%	137	6.6%	41	8.6%	59	5.2%	85	6.8%	196	6.1%
narrow necked globular jars	2U	4	0.5%	24	1.2%	1	0.2%	1	0.1%	5	0.4%	25	0.8%
miscellaneous storage jars	2V	11	1.4%	21	1.0%	8	1.7%	22	1.9%	19	1.5%	43	1.3%
hooked-rimmed jars	2W	4	0.5%	4	0.2%	1	0.2%	1	0.1%	5	0.4%	5	0.2%
later lid-seated jars	2X	3	0.4%	3	0.1%	11	2.3%	16	1.4%	14	1.1%	19	0.6%
miscellaneous beakers	3	31	4.0%	35	1.7%	10	2.1%	19	1.7%	41	3.3%	54	1.7%
everted-rimmed beakers	3C	1	0.1%	1	0.0%					1	0.1%	1	0.0%
Drag form 72 beakers	3DE72	1	0.1%	1	0.0%					1	0.1%	1	0.0%
beakers with short everted rim	3E	4	0.5%	4	0.2%					4	0.3%	4	0.1%
`poppyhead' beakers	3F	3	0.4%	3	0.1%					3	0.2%	3	0.1%
miscellaneous bowls	4	27	3.5%	36	1.7%	14	2.9%	20	1.8%	41	3.3%	56	1.7%
miscellaneous bowls/dishes	4/5	54	7.0%	105	5.1%	36	7.6%	47	4.2%	90	7.2%	152	4.7%
Drag form 37 bowls	4DR37	9	1.2%	14	0.7%	5	1.1%	5	0.4%	14	1.1%	19	0.6%
Drag form 38 bowls	4DR38	6	0.8%	9	0.4%	2	0.4%	2	0.2%	8	0.6%	11	0.3%

Imitation Drag form 37 bowls	4E	1	0.1%	1	0.0%					1	0.1%	1	0.0%
bowls with flat, hooked or folded-over rims	4F	1	0.1%	1	0.0%					1	0.1%	1	0.0%
flat-rimmed bowls with vertical wall	4G	2	0.3%	3	0.1%					2	0.2%	3	0.1%
bowls with incipient flange (Gillam 226)	4G226	4	0.5%	4	0.2%					4	0.3%	4	0.1%
Black-burnished-type rounded-rim bowls	4H	34	4.4%	62	3.0%	16	3.4%	31	2.7%	50	4.0%	93	2.9%
bowls with lid-seated rim	4L	1	0.1%	2	0.1%					1	0.1%	2	0.1%
Black-burnished-type flanged bowls	4M	8	1.0%	12	0.6%					8	0.6%	12	0.4%
other flanged bowls	4MX	1	0.1%	1	0.0%					1	0.1%	1	0.0%
miscellaneous dishes	5	2	0.3%	3	0.1%	5	1.1%	5	0.4%	7	0.6%	8	0.2%
plates with wide flat rim	5C					1	0.2%	1	0.1%	1	0.1%	1	0.0%
Drag form 18 dishes	5DR18	1	0.1%	1	0.0%					1	0.1%	1	0.0%
Drag form 18/31 dishes	5DR18/31	5	0.6%	7	0.3%	2	0.4%	3	0.3%	7	0.6%	10	0.3%
Drag form 18/31R dishes	5DR18/31R	3	0.4%	3	0.1%	2	0.4%	4	0.4%	5	0.4%	7	0.2%
Drag form 31 dishes	5DR31	4	0.5%	7	0.3%	2	0.4%	2	0.2%	6	0.5%	9	0.3%
Drag form 35/36 dishes	5DR35/36	1	0.1%	2	0.1%	1	0.2%	1	0.1%	2	0.2%	3	0.1%
Dishes with simple rim	5J	19	2.5%	33	1.6%	5	1.1%	6	0.5%	24	1.9%	39	1.2%
plain-rimmed dishes	5J1	1	0.1%	1	0.0%					1	0.1%	1	0.0%
Walters form 79 dishes	5WA79	1	0.1%	2	0.1%					1	0.1%	2	0.1%
Miscellaneous cups	6	5	0.6%	5	0.2%	1	0.2%	1	0.1%	6	0.5%	6	0.2%
Drag form 33 cups	6DR33	7	0.9%	9	0.4%	8	1.7%	12	1.1%	15	1.2%	21	0.7%
Drag form 35 cups	6DR35	1	0.1%	1	0.0%					1	0.1%	1	0.0%
Drag form 40 cups	6DR40					1	0.2%	1	0.1%	1	0.1%	1	0.0%
miscellaneous mortaria	7	15	1.9%	20	1.0%	4	0.8%	5	0.4%	19	1.5%	25	0.8%
bead and flange mortaria	7BEF	4	0.5%	7	0.3%	1	0.2%	1	0.1%	5	0.4%	8	0.2%
hooked flange mortaria	7HOF	3	0.4%	3	0.1%					3	0.2%	3	0.1%
Young form M22 mortaria	7M22	1	0.1%	10	0.5%	1	0.2%	1	0.1%	2	0.2%	11	0.3%
miscellaneous amphorae	8	4	0.5%	6	0.3%					4	0.3%	6	0.2%
Camulodunum 189 amphorae	8C189	2	0.3%	2	0.1%	1	0.2%	1	0.1%	3	0.2%	3	0.1%
Dressel 20 amphorae	8DR20	7	0.9%	16	0.8%	7	1.5%	11	1.0%	14	1.1%	27	0.8%
Gaulish amphorae	8G	7	0.9%	26	1.3%	10	2.1%	31	2.7%	17	1.4%	57	1.8%
Gauloise type 4 amphorae	8G4	2	0.3%	4	0.2%					2	0.2%	4	0.1%

Kingsholm 117 amphorae	8K117	1	0.1%	1	0.0%					1	0.1%	1	0.0%
lids	9A	3	0.4%	3	0.1%	3	0.6%	3	0.3%	6	0.5%	6	0.2%
tazze	9C	1	0.1%	1	0.0%	1	0.2%	1	0.1%	2	0.2%	2	0.1%
strainers	9H	2	0.3%	2	0.1%					2	0.2%	2	0.1%
unguentaria	9N					1	0.2%	1	0.1%	1	0.1%	1	0.0%
Totals		770	100.0%	2078	100.0%	475	100.0%	1129	100.0%	1245	100.0%	3207	100.0%

Table 12		**SWY97**				**SNY97**				**SWY97 & SNY97**			
Type	**Type code**	**Rows**	**% Rows**	**Sherds**	**% Sherds**	**Rows**	**% Rows**	**Sherds**	**% Sherds**	**Rows**	**% Rows**	**Sherds**	**% Sherds**
unidentified forms	-	120	15.6%	343	16.5%	93	19.6%	215	19.0%	213	17.1%	558	17.4%
amphorae	AMPH	23	3.0%	55	2.6%	18	3.8%	43	3.8%	41	3.3%	98	3.1%
beakers	BEAKER	40	5.2%	44	2.1%	10	2.1%	19	1.7%	50	4.0%	63	2.0%
bowls	BOWL	94	12.2%	145	7.0%	37	7.8%	58	5.1%	131	10.5%	203	6.3%
bowls/dishes	BOWL/DISH	54	7.0%	105	5.1%	36	7.6%	47	4.2%	90	7.2%	152	4.7%
cups	CUP	13	1.7%	15	0.7%	10	2.1%	14	1.2%	23	1.8%	29	0.9%
dishes	DISH	37	4.8%	59	2.8%	18	3.8%	22	1.9%	55	4.4%	81	2.5%
flagons	FLAGON	5	0.6%	8	0.4%	5	1.1%	6	0.5%	10	0.8%	14	0.4%
jars	JAR	355	46.1%	1258	60.5%	237	49.9%	693	61.4%	592	47.6%	1951	60.8%
lids	LID	3	0.4%	3	0.1%	3	0.6%	3	0.3%	6	0.5%	6	0.2%
mortaria	MORT	23	3.0%	40	1.9%	6	1.3%	7	0.6%	29	2.3%	47	1.5%
strainers	STRAINER	2	0.3%	2	0.1%					2	0.2%	2	0.1%
tazze	TAZZA	1	0.1%	1	0.0%	1	0.2%	1	0.1%	2	0.2%	2	0.1%
unguentaria	UNGUENTARIUM					1	0.2%	1	0.1%	1	0.1%	1	0.0%
Totals		770	100.0%	2078	100.0%	475	100.0%	1129	100.0%	1245	100.0%	3207	100.0%

3.2 Assessment of Registered Finds

Site address: Summerton Way, Thamesmead SE28
Recorder: Sally Holt
Date:August 1997

1. Quantity

20 registered finds were recovered, quantified by material as follows:

ceramic	8
flint	1
glass	1
leather	1
stone	8
bone	1

The finds have been accessioned according to the MoLAS system. The ceramic finds are assessed elsewhere.

2. Date, Range and context

Roman

A limited number of finds were retrieved from Roman deposits. These include a body fragment of naturally coloured Roman vessel glass [39]<8> found in a ditch in the latest Roman phase of the site dating to the 2nd half of the 4th century. This type of glass is found in the late 1st / 2nd century and beyond. A small fragment (37 x 38mm) of stitched leather [86]<20>, possibly part of a Roman stitched shoe sole, came from the fill of a ditch from the first phase of Roman activity. A worked flint, retrieved from the deposits of clayey alluvium sealing the first phase of Roman activity, should be seen by Jonathon Cotton (MoL). A fragmentary shaft of a bone pin was the only registered find from SNY 97 ([35]<1>).

Quernstones

The majority are lava rotary querns which are believed to be imported from the Mayen quarries of the Eifel Hills of Germany during the Roman period and beyond. They are present in all phases of Roman activity on the site and in some cases have been re-used, presumably after becoming too worn to be used for their original purpose. Those which still retain original surfaces do show signs of wear although in same cases this may be the result of post-depositional activity such as flooding.

Phase 3 - 1st Roman activity

Three fragments of a lower-stone [54]<19> had been re-used as part of the actual construction of a hearth. Wear on all surfaces of these three fragments would suggest that they have been water-worn at some stage.

Phase 4 - Intermission

A substantial fragment of upper-stone [46]<14>, from the alluvial deposits of this phase, has a raised lip around the edge and grooved top surface. The grinding surface shows traces of grooving although it is very worn. A further small fragment [46]<12> came from the same deposit.

Phase 5 - 2nd Phase of Roman Activity

Quern fragments from contexts [17], [18], and [54] had been re-used and were found in association with this later phase of hearths. A total of 46 fragments [17]<16> were found jammed between two tiles presumably in order to secure the tiles in place. A small fragment [18]<10> was found amongst the backfill of the construction pit for hearth [17]. The only fragment of non-lava quern [16]<18>, is made of a fairly coarse grained sandstone (grit stone) *pers. comm. Ian Betts* and was found in the occupational debris sealing the hearths Fragment [47]<13> was found in a post hole from this same phase of activity.

Phase 6 - Latest Roman Activity

Six fragments of lava quern [39] <11> were retrieved from the fill of a ditch dating to the 2nd half of the 4th century.

3. Condition of the finds

The quernstones with the exception of [46]<14> and [54] <19> are quite fragmentary and some appear to be water-worn. The leather will require conservation.

4. Potential of the material

Apart from the ceramics, there is very little Roman material from this site. While the presence of the quernstones, glass and leather is clearly indicative of domestic activity in the area in the Roman period, further research into these finds would add little to the general interpretation of the site sequence and is not, therefore, recommended.

3.3 Building Material Assessment

Site Name/Codes: Summerton Way, Thamesmead (SNY97 and SWY97)

filename: P:bexl/1008/swy97/finds/bm01.doc

Name: Ian M. Betts
Date: August 1997

Amount Recorded: SWY97 - 3 large bags (SNY97 - 2 shoe boxes)
Amount Retained: SWY97 - 1 shoe box (SNY97 - All)

Computerised (Oracle): No

Roman Ceramic Building Material

(SWY97 contexts 2*, 3*, 11, 16, 17, 20, 26, 46, 50, 52, 74)
(SNY97 contexts unstrat*, 3, 12*, 17, 30)
* medieval tile present in context

The majority of tiles were in local London fabric type, although significantly four rarer fabric types are present. All are probably imports from tileries situated outside the London area, although one the source of one fabric type (2456) can be identified.

i) Fabric Group 2815 (1st to mid 2nd century)
Individual fabric types 2452, 2459A, 3004, 3006.

Source: North of London, mainly from the kilns straddling Watling Street between London and St Albans. Possibly also from kilns south-west of London.

Types of tile: brick, roofing (imbrex, tegula), box-flue tile (combed)

From SWY97 context 17 is a half complete bessalis brick, measuring 210 mm, which would have been used in a brick pila stack supporting the floor in a building with a hypocaust heating system.

ii) Fabric 2456 (Late 3rd - mid 4th century)
(SWY97 context 74)

Source: Harrold, Bedfordshire

Type of Tile: box-flue (combed)

iii) Fabric 3028 (AD 70 to 100/120)
(SWY97 context 50)

Source: unknown

Type of tile: roofing (tegula)

iv) Fabric 3057 (provisionally dated AD 75/80 to 100)
(SNY97 context unstrat, 12)

Source: unknown. This is an extremely rare fabric type from London itself.

Types of tile: roofing (tegula, imbrex)

*v) **Fabric 3060*** (1st - mid 2nd century)
(SNY97 context 17)

Source: the majority of tiles in this fabric come from Radlett in Hertfordshire. However, the SNY97 tile is in a less sandy version of fabric 3060 which has also been found at Canterbury in Kent. This would suggest a kiln source somewhere to the east of London.

Type of tile: brick

*vi) **Fabric 3222*** (uncertain, but probably pre-3rd century)
(SWY97 context 16)

Source: unknown,

Type of tile: brick

*vii) **Fabric 3226*** (AD 70 - 100)
(SWY97 context 16)

Source: unknown

Type of tile: brick, most tiles in this fabric found in London are bricks, which would suggest that the kiln site specialised in making brick products.

Although no Roman buildings were found at SWY97 the presence of combed hypocaust tiles and a pila brick is very significant. Not only does this indicate the presence of a, presumably stone built, hypocausted building, the presence of a shelly fabric box-flue from Harrold show that this building was undergoing modification during the late 3rd - mid 4th century.

*viii) **Fabric 3238*** (provisionally dated 71-100)
(SNY97 context 3)

Source: unknown. Work in progress on Roman sites in Southwark, where tiles in fabric 3238 are concentrated, should provide firmer evidence on the dating of these silty tiles.

Type of tile: brick

Medieval and Post-Medieval Ceramic Building Material

Peg Roofing Tile

(SWY97 contexts 1, 2, 2A, 3, 23)
(SNY97 contexts unstratified 2, 5, 7, 9, 12)

Fabric types: 2271, 2586, 2816, 3090

In London such tiles first appear in the late 12th century and continued to be the principal form of ceramic roof covering until the widespread introduction of pantiles after the Great Fire of 1666. The use of peg tiles continued after the Great Fire until the later 18th century when the use of slate roofing gradually took over.

The vast majority of peg tiles were almost certainly made at tile kilns close to the City. Most of these seem to have been east of London, tilemaking is recorded in Stepney from 1366 (McDonnell 1978, 114) and in the later 14th and 15th centuries Woolwich was a principal centre for the manufacture of roof tile supplying both the City and Westminster (Cherry 1991, 194).

It is extremely difficult to date peg tiles with any precision. Earlier tiles, those made before the late 15th century, tend to be thinner and are frequently characterised by the presence of splash glaze. The vast majority of these tiles have two round nail holes. Peg tiles made from the late 15th century onwards tend to be both thicker and of more uniform thickness; glaze is no longer present. The types of nail holes found in these peg tiles is more diverse, not only are they round, but they can be square, diamond or even hexagonal in shape.

Both early and later types are found at SWY97 and SNY97. Earlier medieval peg tiles with splash glaze were recovered from SWY97 (contexts 1, 2) SNY (context 5, 12), whilst a later peg tile with a square nail hole was recovered from SWY97 (context 1). A number of SNY97 peg tiles, probably of late medieval or post-medieval date, had round nail holes.

Other ceramic building material

Unstratified from SNY97 was a small fragment of post-medieval brick along with a machine-made Victorian, or later, dark red tile from Trench 1. Other ceramic fragments were too small and abraded to determine their form or date.

Stone Building Material

Most of the stone building material was found with Roman tile, and so is probably of Roman date.

a) Rubble
(SWY97 contexts 5, 16)
(SNY97 context 3, 5, 6, 7)

This comprised mainly fragments of chalk, Kentish Rag limestone and Hassock sandstone, Kentish Rag and Hassock having been obtained from quarries in the Maidstone area of Kent. One Hassock block has a ridge running along one surface which suggests it may have been worked, but it is too abraded to be sure.

A number of fragments of chipped flint was recovered from SNY97, one of which has mortar attached suggesting that it could have been used as walling in a building or structure. The flint from SNY97 was associated with peg tile roofing which would suggest a medieval or post-medieval date.

b) Paving?
(SWY97 context 11)

Associated with Roman tile in context 11 was a fragment of fairly fine grained laminated sandstone measuring 13-14 mm in thickness. The thickness suggests it was probably intended to be used as stone roofing, however, the smoothed top suggests it could have been use, or perhaps reused, as paving.

Further Work Required

If the site is to be published, the results of the building material analysis should be incorporated into the main body of the text. Items worthy of a special mention are the box-flue tiles implying the presence of a late Roman stone building with hypocaust heating system somewhere in the vicinity, and the Roman roofing tile in very rare fabric type 3057.

Computerisation

All the building material record sheets will need to be computerised and checked. This will enable the information to be stored in a form that allows comparison with all the other sites in the MoLAS building material computer date base.

References

Cherry, J, 1991 'Pottery and Tile' in *English Medieval Industries. Craftsmen, Techniques, Products* (eds J Blair and N Ramsay), 189-209

McDonnell, K, 1978 *Medieval London suburbs*

Appendix 4 - Environmental Assessments

4.1 Assessment of the animal bones from Summerton Way, Thamesmead SE28, London Borough of Bexley (SWY97 and SNY97)

Kevin Rielly

Introduction and method

The aim of this report is to establish the potential value of the animal bones in terms of the information they can provide regarding animal exploitation in the general vicinity of the site. To be considered here are 1. the availability of good dating evidence, including any data pointing to the level(s) of redeposition and 2. the information which can be gathered from the bone assemblage. The latter aim will depend on the method of recovery (hand recovered and/or sieved) and the state of the bones (fragmentation and preservation). Regarding the use of animals it is important to note the species present, the anatomical representation and the presence of information which could lead to conclusions concerning exploitation patterns and stature i.e. age and size data respectively.

SNY97 represents an evaluation of this area, which was then followed by a more extensive excavation (SWY97). At both sites the bones were recovered by hand and also through the employment of an extensive sampling programme.

The analysis of these assemblages incorporated a rapid scan of all the bones, following the various information topics described above.

Description of the bones

The hand collected bones from SWY97 amounted to 2.21kg (about 60 fragments), these arising from 8 contexts, while from SNY97 there was 1.3kg of bone from 7 contexts. Only a small proportion of the samples taken from either site produced animal bones, namely two from SWY97 (0.18kg or about 120 fragments) and six from SNY97 (0.18kg or about 25 fragments). The distribution of bones in each site is shown in table 1, with the SWY97 bones within Groups 3 to 6, and SNY97 bones in Group 9 and 11.

Table 1. Distribution of animal bones

Context(s)	G.SG	Context type	Weight	N	Species
86	3.1	shallow ditches	0.02	2	CSZ
62	3.3	shallow pit	0.88	15	CATTLE,DOG,SSZ
70*	3.4	posthole	0.10	110	SHEEP/GOAT,SSZ
42+52	3.9	?occupation layer	0.34	16	CATTLE,SHEEP/GOAT,PIG,HORSE,CSZ
52*			0.08	10	CATTLE,CSZ,SSZ

46	4.6	alluvium	0.07	2	CSZ
16	5.5	occupation layer	0.42	15	CATTLE
74+76	6.3+6.4	shallow ditches	0.48	8	CATTLE,CSZ
40	9.1	shallow ditch	0.17	5	CATTLE
33	9.2	shallow ditch	0.20	20	CATTLE,CSZ
33*	9.2		0.01	3	CATTLE,SHEEP/GOAT, CSZ
35	9.3	shallow pit	0.50	10	CATTLE,CSZ
35*	9.3		0.10	8	CATTLE,?DOG,CSZ
36	9.4	shallow pit	0.01	3	SHEEP/GOAT,UNID
23,31+38	9.5	?occupation layer	0.42	12	CATTLE,CSZ
28*,38*, 43*+47*	9.5	?occupation layer	0.07	15	CSZ,SSZ

*All hand collected except for contexts marked * which represent sieved assemblages.*
G.SG equal Group.Subgroup (these explained in the text)
CSZ cattle-size, SSZ sheep-size, UNID cattle/sheep-size
Weight in kilograms.

Each of these deposits can be dated, by association, if not by artefactual content, to the Roman occupation at this site. This has a general date range of approximately 250 to 400AD, and is divided into an early phase (Group 3 and 9), a period of inundation (Group 4) and a later phase (Groups 5, 6 and 11). Most of the site assemblage was provided by phase 3 and 9 deposits, these also producing all of the sieved assemblages. The bones from these earlier deposits are generally in better condition relative to those from phases 4 through to 6. However most contexts assemblages are represented by a proportion of poorly preserved bone fragments.

Regarding the hand collected assemblages, the species identified include each of the major mammalian domesticates (see table 1), of which cattle is clearly the most abundant throughout. Most of the bones belonging to these species tend towards a high level of fragmentation, with the exception of the cattle bones from [62] (Group 3) and [35] (Group 9), which included two fragments, a mandible and a scapula, which were 50% complete, and a complete cattle humerus respectively. The general level of fragmentation has severely limited the availability of any measurable bones, while bones which can be aged (mandibles and limb bone epiphyseal ends) are, in general, poorly represented. The skeletal distributions of the better represented species are clearly mixed.

No additional species were recovered from the sieved deposits. The very poor representation of the smaller species may be related more to the unsuitability of ground conditions (this contributing to the noted levels of fragmentation and preservation) than to any dietary preference. Of some interest is the bone assemblage from the fill [70] of a posthole. This included about 100 bones, probably representing the fragmented remains of a cremated adult sheep. All the bones were burnt white i.e.

calcined, which can only be achieved by high temperatures over a long period (see Lee Lyman 1994. 389). It was noticed that only a proportion of the bones are present, which is unlikely to be the result of poor recovery. Rather it may indicate that only a proportion of the bones were taken from the cremation site to the posthole. In addition the level of fragmentation is suggestive of deliberate damage. All this evidence points to a 'ritual' definition of this assemblage. It is unfortunate that this posthole fill is poorly dated. However it can be seen to be one of the earliest features in the Roman occupation sequence.

One of the pitfills [35] in Group 9.3 produced a shaft piece of a bone pin/needle.

Conclusions and potential of the data

The information which can be gleaned from the available evidence is extremely limited. It can be seen that the species range is fairly typical of the list of larger animals found on Roman rural sites, with a mixture of food (cattle, sheep/goat and pig) and work animals (horse and dog). However, with one notable exception (the 'cremation'), there is clearly insufficient data to provide any detailed information on species abundance or exploitation patterns. Though the deposits are relatively well dated, the quantities of bones are small. In addition the high level of fragmentation and the occurrence of several poorly preserved specimens strongly suggests that the assemblages will be biased towards the more robust species/skeletal parts.

Various scenarios could be cited to explain the presence of the burnt sheep remains in the Group 3 posthole fill, as follows:-

1) they represent food remains within a cooking pit,
2) they belong to a diseased animal which was either burnt in situ or eventually carried to this location, and
3) as stated in the last section, it represents a cremation, possibly 'ritual' deposit.

The high temperatures needed to produce calcined bone would certainly have burnt the edges of the posthole. As no such marks were noticed, these bones must have been brought from elsewhere. It is inconceivable that cooking waste would have been removed to be deposited elsewhere. IN addition the burning of a diseased animal would suggest that there was some understanding between disease and infection, for which there appears to be no proof at this time. Rather, the most likely interpretation of these bones is that they represent some kind of ritual behaviour. Certainly, there is evidence for the ritual use of sheep, either interred unburnt with inhumations (Philpott 1991. 202) or cremated with human remains (see Rielly forthcoming). The incidence of cremated animals without the nearby presence of human remains is far less common. A recent find from one of the Southwark Jubilee Line excavations included a small pit dated to the 2nd century AD, situated within a building in which was found a large number of calcined pig and fish bones (Rielly 1997).

Recommendations

Further work on the faunal evidence from this site should be limited to the 'cremation' deposit. Identification of the species and skeletal parts should be included alongside a short amount of time for research i.e. to ascertain the distribution of similar deposits, and to establish the likely significance of this potentially important assemblage.

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4.2 An Assessment of Plant Remains from Summerton Way, Thamesmead

by Lisa Gray-Rees

1.Introduction

This assessment examines macroscopic plant remains, flot and waterlogged wood recovered from environmental soil samples during excavations at Summerton Way. The aims of the assessment were to evaluate the preservation of material, determine the research questions it could address and the suitability of the material for further study.

2.Methods

2.1 Initial Processing of the Soil Samples

500ml sub-samples were taken from the two soil samples and wet sieved through a 250 micron mesh. This is the current procedure for processing waterlogged samples. Once sieved the flot was stored in Industrial Methylated Spirit. Details of this procedure was added to the MoLAS Oracle database.

2.2 Scanning and Recording

Twenty-two flots were scanned using a low-powered binocular microscope. The diversity and abundance of plant materials were noted. In addition to the botanical remains and faunal, mineral and small finds were recorded where appropriate. The resulting data was added to the MoLAS Oracle database.

The waterlogged wood from SWY97 was cross sectioned in transverse, longitundal and radial sections and examined under a low- powered binocular slide microscope. It was identified using the diagnostic key of Schweingruber (Schweingruber , 1978).

3.Results

3.1. Waterlogged Wood

3.1.1. Stem Wood

A large section of tree trunk was recovered from Group 1, sub group 1.2 ([4]<27>). Examination revealed that this was a clearly ring porous wood with small numbers of paired and isolated vessels in radial files. The rays were bi- or tri-seriate and generally homogenous. No perforation plates were seen so it has been assumed that the plates were simple. No spiral thickening was observed. Schweingruber's key and atlas were used to determine the genus and the wood type closely resembling that observed, was ash (*Fraxinus excelsior* L).

3.1.2. Root Wood

Root wood is often difficult to identify because the structure is not uniform and may be present in varying stages of development (Schweingruber, 1973;186). Some structure was clearly preserved in the fragment studied (Group 1, sub group 1.1) and resembled the example of ash presented in Schweingruber's guide (Schweingruber, 1973:187) [84]<24>.

3.2. Flots

The following table lists the details of the flots. Additional information is given in the Oracle printouts attached:-

Site	Group	Sub group	Context	Sample	Volume of flot	Dry or Waterlogged	Comment
SWY97	1	1.2	4	26	100ml	both	good for environmental information
	1	1.2	4	27	NA	NA	wood
	1	1.1	84	16	20	both	good for environmental information
	3	3.9	42	6	10	dry	poor-just low numbers of charred grain, seed and waterlogged seed
	3	3.9	52	5	35	dry	good-charred grain, chaff and seeds-good for function of feature and economy
	3	3.3	62	7	5	both	poor-just stem/leaf tissue and low numbers of waterlogged seeds
	3	3.4	70	8	10	dry	poor-just stem and leaf tissue
	3	3.1	86	22	5	dry	poor- just flecs of charred wood
	3	3.1	87	23	10	dry	poor-just low numbers of waterlogged seeds
	3	3.2	94	25	5	dry	poor-just low numbers of waterlogged seeds
	6	6.1.	11	1	2	dry	poor-just flecs of charred wood
	6	6.7	28	2	5	dry	poor- 1 wheat grain and low

							amount of waterlogged seeds
	6	6.9	30	3	10	dry	poor-just low amount of waterlogged seeds
	6	6.4	74	9	5	dry	poor-just fragments of waterlogged stem/leaf tissue
	6	6.8	32	4	15	dry	poor-just fragments of waterlogged stem/leaf tissue and low numbers of waterlogged seeds
SNY97	6	6.6	35	1	10	dry	charred chaff-glume fragment and grains
	6	6.7	28	8	2	dry	charred chaff-glume fragments
	6	6.8	33	9	15	dry	6 charred glume fragments and charred seed
	10	10.1	21	4	4	dry	charred chaff-glume fragments
	12	12.1	18	6	2	dry	poor-just a moderate amount of flecs of charre and charred seed

3.2.1. SWY97 Group 1 - Prehistoric

The three samples taken from this group were rich in waterlogged seeds and will give information about the local environment. The seeds recovered come from plants of aquatic and semi-aquatic habitats, for example yellow flag (*Iris pseudocorus* L) and alder (*Alnus glutinosa* L).

3.2.2. SWY97 Group 3 , Sub group 3.1 - Ditch

The samples from this sub-group were poor. They are dominated by waterlogged fragments of stem/leaf tissue and contain low numbers of waterlogged disturbed ground seeds, for example buttercup-type (Ranunculaceae) and goosefoot (*Chenopodium* sp).

3.2.3. SWY997 Group 3- 1st Roman activity

Most of these samples were poor, dominated, as in the previous case, by waterlogged stem/leaf tissue and low numbers of disturbed ground seeds.

The most interesting sample was [52] <5>. It contained moderate amounts of charred wheat grains and low amounts of chaff. This may give information about crop-processing and the function of the feature.

3.2.4. SWY97 Group 6 - Later Roman

These samples were poor, dominated by waterlogged stem/leaf tissue and small numbers of seeds from disturbed and semi-aquatic ground. Sample <28> contained a charred wheat grain.

3 2.5. SNY97

Five samples from the thirteen available were selected for study. These were[18]<6> "latest Roman phase"; [21]<4> "alluvial intermission";[28]<8> "occupation deposits"; [33]<9> "earliest" phase ditch and [35]<1> "early phase pit" and were selected because they came from contexts having most potential to give useful archaeological information.

The remaining samples, [17]<2> "post Roman alluvium"; [20]<3> "; [31]<12> "occupation deposit"; [38]<5> "occupation deposit"; [43]<10> "; [46]<7> "occupation deposit" and [47]<11> "occupation deposit" were not examined during the assessment stage. because they were not considered to be as useful as the ones selected.

The three samples from group 6 (<1> , <9> and <28>) each contained abundant fragments of microscopic charred wood and low numbers of charred glume fragments. A small number of uncharred seeds, possible preserved by waterlogging were present in <1> and <8> and included those of stinging nettle (*Urtica dioica* L.) and elder (*Sambucus nigra* L.). Charred seeds were present in<4> and charred wheat grains were noted in <1>.

The sample from group 10, was similar to those described above, including nettle seeds and glume fragments. The sample from group 12 contained no glume fragments but did include small amounts of charred seeds, e.g. campion (*Silene* sp).

4. Recommendations

4.1.Preservation and Abundance

The waterlogged remains were well preserved. The charred remains were generally poorly preserved.

4.2.Potential

For SWY97, samples <26>[4] and <16>[84] will give information about the prehistoric natural and resource environment and samples <5>[52] and <6>[42] will give economic (i.e. information about crop processing and husbandry from the charred remains) for the Early Roman period or help determine the function of the feature. These samples should be fully analysed. The rest of the samples were poor in abundance and diversity and could be quickly scanned.for any further remains.

For SNY97, the five samples already described should be further studied, principally because of the chaff fragments within them. Chaff could be present for a variety of reasons including its use as tinder or as sieving waste from crop processing activities. These samples may help define the function of the features. Further study should include the assessment and scanning of the remaining flots for SNY97.incase further charred remains are present. Samples could be selected from among these for analysis.

5. Method Statement

5.1. Examination and Identification

5.1.1. Seeds

Samples will be examined using a light microscope with magnifications of between 10 and 40 times. Modern seed reference collections and reference manuals will be used (e.g. Anderberg 1994, Berijinck 1947 and Berggren 1969,1981).

5.2. Recording Information

Plant species and frequency will be recorded along with the mode of preservation and intactness. This data will be recorded onto record sheets and transferred to the MoLAS Botanical ORACLE database that contains habitats and economic codes for each species.

6. Potential for further Analysis of Botanical Remains

Identification and Recording of four dry flots and three wet flots
Scanning of 7 remaining flots from SNY97
Identification and Recording of five dry flots
Analysis of dry flots assessed at analysis stage if considered necessary
Computer Input and Table Compilation
Analysis of Results
Research
Preparation of Report

7. References

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4.3 Geoarchaeological Assessment of Sediments at Summerton Way, Thamesmead

Graham Spurr
Sept.1997

Introduction

As part of an archaeological evaluation carried out by Museum of London Archaeologists, Monolith tin samples were taken from stratigraphic sections exposed by two trenches (North and South) at Summerton Way, Thamesmead, London. The aim of the stratigraphic sampling was to provide a more detailed stratigraphic analysis to ascertain the nature of the different sedimentary units present and their modes of deposition. This was done with a view to reconstruct the nature of the palaeo-environmental conditions influencing the site.

Methods

The Monolith tins were hammered vertically into the sides of the trenches in a staggered, overlapping fashion to retrieve a sample of the exposed stratigraphy. Added to this, bulk samples of the organic sequences were taken for C^{14} dating. The monolith tins were plotted on the section drawings of the relevant trenches and related to Ordnance Datum (OD) by the supervising archaeologists. The tins were then wrapped and transported to the MoLAS Environmental laboratories where they were described to standard sedimentary criteria (eg . Gale and Hoare, 1991).

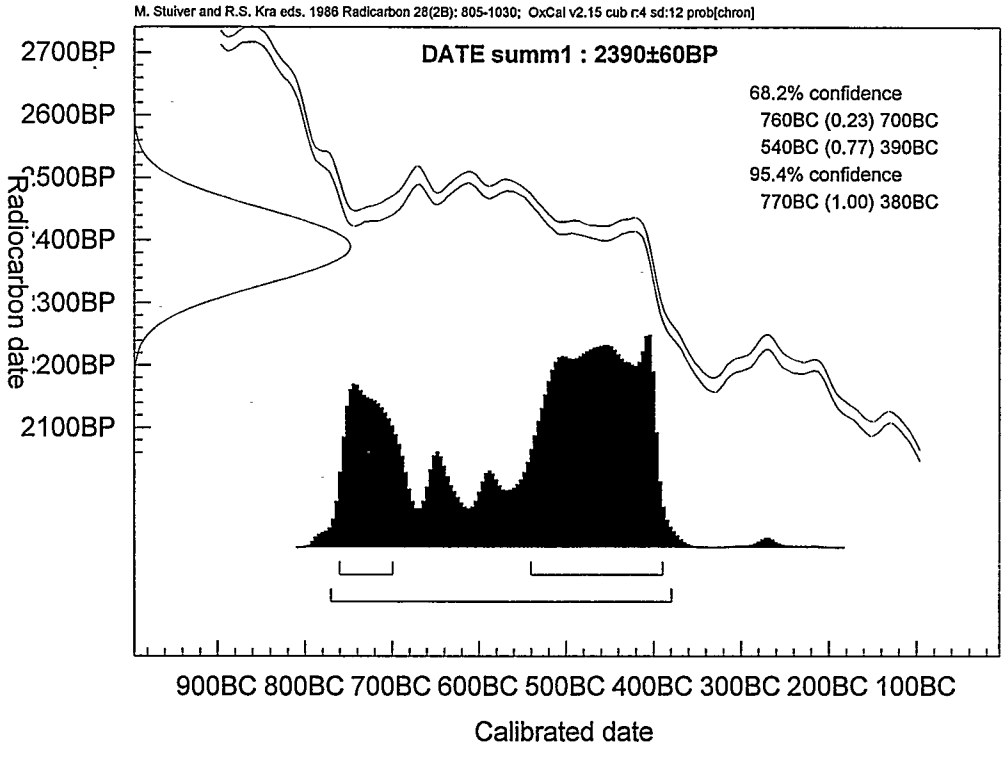
Results

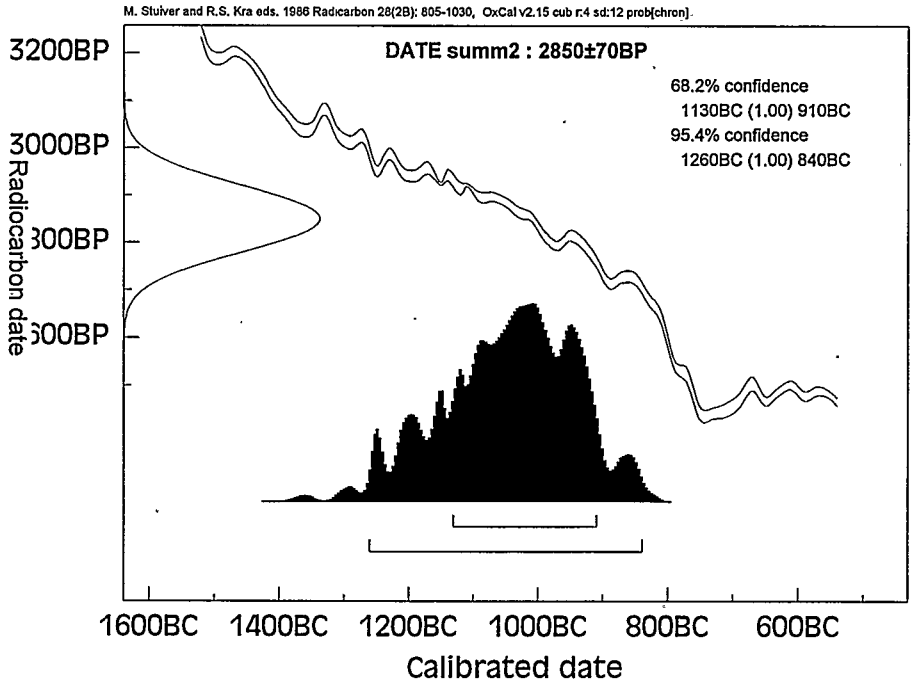
Chrono-stratigraphy

Samples from the top of the organic silty clay / peaty units in both trenches were taken for C^{14} analysis by Beta Analytic. The samples were chosen to provide a chronostratigraphic framework for the lithographic study in both years before present (BP) and for determining archaeological periods - calibrated, where possible, into years BC.

Lab. No.	Trench /Height OD	Years B.P.	Years B.C.
Beta -108100	Nth Trench -1.4m	2390 +/- 60	765 -615 or 600-375
Beta -108101	Sth Trench -1.5m	2850 +/- 70	1215 - 830

Table 1 : Results of the C^{14} assays at SWY 97


M. Stuiver and R.S. Kra eds. 1986 Radicarbon 28(2B): 805-1030; OxCal v2.15 cub r:4 sd:12 prob[chron]
DATE summ1 : 2390±60BP
68.2% confidence
760BC (0.23) 700BC
540BC (0.77) 390BC
95.4% confidence
770BC (1.00) 380BC
2700BP
2600BP
2500BP
2400BP
2300BP
2200BP
2100BP
Radiocarbon date
900BC 800BC 700BC 600BC 500BC 400BC 300BC 200BC 100BC
Calibrated date


M. Stuiver and R.S. Kra eds. 1986 Radiocarbon 28(2B): 805-1030, OxCal v2.15 cub r:4 sd:12 prob[chron]
DATE summ2 : 2850±70BP
68.2% confidence
1130BC (1.00) 910BC
95.4% confidence
1260BC (1.00) 840BC
3200BP
3000BP
300BP
300BP
Radiocarbon date
1600BC
1400BC
1200BC
1000BC
800BC
600BC
Calibrated date

Lithostratigraphy

The sedimentary units are described in Table 2& 3. The sequences are described from the basal sediments upward.

UNIT	CONTEXT	DEPTH (m.OD.)	DESCRIPTION
A	4	-1.51 to depth unknown	10YR 3/1 Very dark grey silty clay matrix with compressed organics (partly to well humified).
B	4	-1.32 to -1.51	2.5Y3/2 Very dark greyish brown silty clay with random large organics (wood); poorly sorted; contact with unit below horizontal and clear.
C	78	-0.98 to -1.32	2.5Y 4/1 Dark grey silty clay; strong iron staining around iron concretions c.-1.10m but increasingly without inclusions or mottles with depth; moderately well sorted; contact with unit below diffuse.
D	78	-0.78 to -0.98	2.5Y4/2 Dark greyish brown silty clay; single charcoal fragment toward top; iron staining increasing with depth (10% -30%); moderately well sorted; contact with unit below sharp.
E	78	-0.65 to -0.78	5Y5/1 Grey, stiff silty clay; very occasional organics; very occasional granular sized clasts; poorly sorted; diffuse contact with below.
F	3	-0.33 to -0.65	2.5Y 3/1 Very dark grey stiff very silty clay becoming noticibly darker toward base; iron mottling throughout (5%); single subangular clast (10mm) toward top; very occasional humified organics; poorly sorted; sharp, horizontal contact with unit below.
G	-	0.19 to -0.33	2.5Y 5/3 Light olive brown silty clay; stiff, blocky structure; discrete lumps of 2.5Y3/1 very dark grey silty clay & fine root fragments from mid-unit to the base (all roots partly humified); poorly sorted; contact with unit below graded.
H	-	0.335 to 0.19	5Y3/1 Very dark grey very silty clay; stiff, blocky structure; ocasional partly humified fine root fragments; black (mangenese?) staining (40%) throughout ; sand grains visible; diffuse, sloping contact with unit below.
I	-	0.435 to 0.335	5Y 4/1 Dark grey very silty clay; some light grey silty clay lumps; iron mottling; organic fragments throughout, with 5mm organic layer on top; brick/tile fragments; flint clasts (10mm. max.); very poorly sorted; contact with unit below sharp and horizontal.
J	-	0.55 to	2.5Y4/4 Olive brown clayey silt; iron mottling; includes discrete patch (lump) of 2.5Y 4/2 dark greyish brown silty

		0.435	clay with iron mottling; some fine roots; poorly sorted; contact with unit below sharp and horizontal.

Table 2: The stratigraphy of the north trench

UNIT	CONTEXT	DEPTH (m.OD.)	DESCRIPTION
1	84	-1.49 to depth unknown	10YR 4/1 Dark grey organic silty clay matrix in a compact organics and wood layer.
2	83 / 82	-1.0 to -1.49	2.5Y 4/1 Dark grey silty clay becoming 5Y 5/1 Grey silty clay becoming 10YR 4/1 dark grey with depth; light iron mottling (5%); occasional root fibres; organics fragments visible from -1.31mOD onward; possibly very finely laminated (especially toward base); contact with unit below graded.
3	46 / 52	-0.57 to -1.0	2.5Y4/2 Dark greyish brown silty clay; iron mottling throughout (10%-20%) but increasingly pronounced with depth; possible brick/tile fragments toward top of unit and charcoal flecks (c.-0.7m); blocky, crumbling structure; contact with unit below graded.
4	11	-0.35 / -0.44 to -0.57	2.5Y 2.5/1 Black silty clay with discrete patches of 2.5 7/1 light grey silty clay; charcoal flecks and 5% iron mottling toward top; graded contact with unit below.
5	2	-0.11 to -0.35 / -0.44	5Y 3/1 Very dark grey silty clay; 10% iron mottling throughout; fine thread like organics (roots?) present at c.-0.18mOD; evidence of mortar and brick; some black mottling toward base; sand grains visible; contact with unit below slightly graded.
6	1	0.02 to -0.11	2.5Y 4/2 Dark greyish brown silty clay; fairly pronounced iron staining (30%) throughout; discrete sand lenses toward base; occasional granular sized clasts; clear undulating contact with below.

Table 3 : The stratigraphy of the south trench

Interpretation

Chrono-stratigraphy

The results of the C^{14} analyses coupled with the comparable Ordnance Datum heights tend to suggest the peats in both trenches belong to the same unit. Added to this, they are comparable to those dates ascertained from peat samples taken from the nearby Voyagers Quay site (Spurr *et al*, 1996). At Voyager's Quay the topmost sample of

peat was taken at -1.92m OD and dated to 3020 +/- 60 BP (1430-1090 BC). The depth of overburden at this site was thought to have destroyed some of the upper peats which could account for the lower OD height of the peats here.

Lithostratigraphy

As the stratigraphic succession of the north trench is the most extensive it will be used as the type sequence for the purposes of interpretation of the stratigraphy for the area as a whole. As, however, there are some notable differences between the two trench stratigraphies reference to the southern trench sequence will be made when deemed necessary. The stratigraphic units are discussed in terms of their development, age and mode of deposition from the basal unit upwards.

Unit A

Unit A is considered to be the top of the peat sequence. As mentioned above, given the closeness of the Ordnance Datum level of this unit to Unit 1 in the southern trench (c.-1.50m), it is reasonable to assume the peats of these two units to be part of the same peat sequence - largely confirmed by the C^{14} dating. The peat formed as a direct result of vegetation colonisation of the exposed mudflats along the banks of the Thames at this time during periods of sustained lower water levels due to marine regression (sea-level fall). At these levelsand dates it is probably part of the Tilbury III peat sequence (Devoy, 1979).

Unit B

This unit is considered to represent the beginning of the inundation of the peats by the silty clays and equates with Unit 2 in the southern trench. Given the geographical situation (i.e. the lower Thames area) these clays are probably estuarine which, although appearing to have eroded the top of the peats during the initial deposition, were probably deposited as floodplain / overbank deposits giving rise to the fine laminations in the silts toward the top of the unit evident in the southern trench.

Unit C

The deposition of the clays continue in this unit but become more massive in structure with the absence of laminations from c-1.20m OD onward. The more massive structure tends to suggest deeper water deposition. However, the presence of fine roots and occasional organics in the upper part of the unit in the southern trench tends to suggest mud flats / river edge at this location during the same period.

During the post-depositional period, the clays toward the top of the unit become oxidised (exposed to air) giving rise to their iron-mottled appearance. The intense

mottling around possible concretions of iron suggests the capillary fringe at the highest points of the of the fluctuating ground water level.

Unit D

Unit D is similar to Unit C in terms of sediment type and mode of deposition although the colour, which is dominated by wide spread iron mottling, tends to suggest longer periods of low water tables and concurrent exposure to air (post deposition) than the unit below (C). The sharp contrast between the colours of this unit and Unit C re-inforces the hypothesis as to the levels of water table fluctuations proposed in the examination of Unit C.

More interestingly however, the presence of charcoal in this unit (and in, for example Unit 3, southern trench) could be indicative of anthropogenic presence through, for instance, hearth waste or vegetation clearance by burning. It is likely, however, that if the burning was for clearance, it was taking place away from the sampled area as evidence of the charcoal is sparse. Loss on Ignition and Magnetic Susceptibility tests would be applicable here.

Unit E

This unit occurs only in the North trench sequence. The poorly sorted nature of the deposit tends to suggest a flood deposit which either eroded into the equivalent of Unit 4 in the southern trench or was deposited onto a previously eroded platform. The occasional organics and the heavier, granular sediment were probably eroded upstream and redeposited across this area of the site.

It is worth bearing in mind that given the possibility of human activity in the area, this unit could be the indirect result of poor farming practices such the clearance of trees inducing higher water tables and flood events.

Unit F

The nature of this unit tends to suggest another slightly higher energy overbank flood deposit with its high silt content and clast toward the top.

Unit G

The nature of the deposited material sugests a flood of more force possibly a crevasse-splay deposit which is formed by a break of the river levee which allows bed load material to splay out across the floodplain. This type of deposit is one way in which bedload such as mudballs, tile and brick can be incorporated into overbank sediments (Brown, 1997). Interestingly, this relates well with Unit 4 in the southern trench where possible mud balls of light grey silty clay are also incorporated into the unit. Furthermore, the sloping gradient from this unit to Unit 4 of the southern trench,

which contains similar possible mud balls in it, tends to suggest the presence of a levee in the area of the north trench. Indeed, the Units 4 and 5 in the southern trench could be related to the same or similar crevasse-splay flood events which incorporate the building material and make the contact between these units difficult to discern. The presence of fine roots in both trenches at approximately -0.2m OD, however, tends to suggest a hiatus and relative stability on the floodplain after which the energy of the flood events droped off somewhat.

The black colouring in Unit 4 in the southern trench when coupled with the idea of this area being on the floodplain of a levee suggests a hollow or depression or possible abandoned channel where water collected and waterlogged the giving rise to the possible mangenese staining turning the sediment black.

It is also, of course, possible that this whole unit is simply a continuation of the unit below but has been disturbed through human activity such as ploughing. Further tests, such as phosphate analysis, Loss on Ignition and Magnetic Susceptibility would be desirable to discern any farming activity.

Unit H

This unit clearly represents an overbank flood event with the mixing of the sand with the silty clays. Quite often the overbank sediments settleout as sand and clay laminations (flood couplets) but become bioturbated over time leaving an indistinguishable sandy silty clay unit. Notably, in the top unit of the southern trench, Unit 6, the sand occurs as lenses which are perhaps the unbioturbated remnants of the same or similar flood events.

The bioturbation in Unit H could account for the colouring although it probably became an area of slack water as in Unit 4 in the south trench with the same result.

Unit I

This unit again seems to represent either a crevasse-splay deposit exhibiting all its bedload material or it represents a plough layer which could also account for the nature of the inclusions. The curious feature of this unit is the 5mm layer of organics at its top. Either this is a brief colonisation of the floodplain by vegetaion or possible an organic layer associated in some way with farming practices. Again, further tests such as phosphate analysis would be desirable to discern any farming activity.

Unit J

This unit represents a relatively high energy flood deposit which inundated the unit below and upon which, later, rudimentary vegetation began to grow.

Conclusions and Recommendations.

The stratigraphic sequence as revealed in the monolith tin samples taken from the two trenches at Summerton Way indicates on the whole, the inundation of a floodplain area by overbank flood events of varying strengths. Without further tests the inclusions in the upper stratigraphic units (brick/ tile, pot) are interpreted as redeposited channel bedload although these artefacts could be the result of waste included in farm materials ploughed into the fields. Certainly the stratigraphic sequences tend to indicate the north trench was at one time the channel which later became the levee area whereas the southern trench seems to have been a floodplain area throughout. Hence, the southern trench area would be the most likely half of the site to be occupied / exploited for the longest period and possibly has the greatest detail as it (comparatively) suffered less erosion. The northern trench stratigraphy however, offers a long and detailed sequence in itself and always, if possible, further tests for occupation evidence should be made on both sequences.

In light of the above interpretation and conclusions therefore, it is recommended that :

(i) Phosphate testing be done on both sequences to look for any indications of farm waste;

(ii) Loss on ignition and Magnetic Susceptibility tests to track changes in organic content, sediment and the introduction of burnt fire waste / pot material into the area (especially given the hearth finds in the southern trench - see field report)

(iii) Pollen analysis through the longest sequence (the northern trench) for vegetational change through time to supplement and extend previous studies done in the area (eg. Voyager's Quay, Copperfield Way)

(iv) Diatom analysis to track estuarine / freshwater changes from the main river channel deposits taken from the northern trench sequence which would also supplement and extend previous studies done in the area (eg. Voyager's Quay, Copperfield Way).

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