118 VICTORIA DOCK ROAD, E16
LONDON BOROUGH OF NEWHAM
ARCHAEOLOGICAL EVALUATION REPORT

On behalf of:
New Country Homes Ltd
43 Blanche Street
Canning Town
London E16 4JP

By:
Wessex Archaeology in London
Unit 113
The Chandlery,
50 Westminster Bridge Road
London
SE1 7QY

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Acknowledgements

The fieldwork and this report were commissioned by New Country Homes Ltd and Wessex Archaeology would like to Lisa Sweeney for her assistance during the implementation and the undertaking of the fieldwork.

The project was managed on behalf of Wessex Archaeology by Lawrence Pontin. The fieldwork was undertaken by Clare Davis and Gary Evans (Project Supervisor). The overall report was compiled by Gary Evans, the environmental analysis and report by Dr Catherine Chisham. Hayley Clark processed the environmental samples. Illustrations were prepared by Mark Roughly.

Non-technical Summary

This report presents the results of an archaeological evaluation commissioned by New Country Homes Ltd and carried out by Wessex Archaeology, on land proposed for redevelopment at 118 Victoria Dock Road E16 in the London Borough of Newham (NGR 539876 / 180859).

The evaluation was undertaken to inform on the potential impact on archaeological deposits posed by the proposed redevelopment of the site. The evaluation took the form of two 7m x 7m, machine excavated, trenches across the proposed development area.

No archaeological features were observed during the evaluation. However, beneath 1m of modern disturbance which had removed any evidence of a former topsoil, a sequence of alluvial clays, organic peats overlying sands and gravels where uncovered.

The sampling and analysis of these horizons have added to our understanding of the prehistoric environment and landscape of the Site and this part of East London.

The report concludes that the Site was wetland and marshland until the drainage and development of this part of Canning Town in the 18th - 19th century.

The lack of archaeological remains or artefacts of interest from the evaluation trench Wessex Archaeology would conclude that archaeological potential on the site is low and would recommend that no further archaeological fieldwork be undertaken.

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1 INTRODUCTION

1.1 Project Background

1.1.1. Wessex Archaeology has been commissioned by New Country Homes (The Client) to undertake an archaeological evaluation at 118 Victoria Dock Road E16 in the London Borough of Newham (The Site) (**Figure.1**). This report summarises the results of the archaeological evaluation, which took place from 22nd - 23rd November 2004, with an additional visit on 25th November 2004.

1.2 Planning Background

1.2.1. Planning Consent was granted for the redevelopment of the Site with an archaeological condition attached, to secure a scheme of archaeological works on the Site prior to its development.

1.2.2. Wessex Archaeology produced a specification (Wessex Archaeology, 2004) which detailed the objectives, methods and resourcing of an archaeological evaluation which, dependent on results, could be considered to fulfil the planning condition. This was approved by the Greater London Archaeological Advisory Service (GLAAS).

1.3 Site Location

1.3.1. The Site was approximately rectangular in shape, and some 0.1 hectare in extent. It was bounded to the north, east and west by residential and commercial properties and to the south fronted onto Victoria Dock Road. The Site was until recently occupied by a two-storey commercial warehouse facility. The Site is centred on National Grid Ref: 539876 / 180859

1.4 Landform, Geology and Soils

1.4.1. The underlying drift geology on Site was Holocene alluvial deposits overlying river gravels, which overlie London Clay (B.G.S. Geological maps of England and Wales, Sheet. 257, East London).

1.4.2. The Site's at the position close to the confluence of the River Lea (Bow Creek) with the River Thames. Coupled with its position on the edge of the floodplain of the River Thames/River Lea has been the major factor in determining the type and location of past human use in the area through out history.

2 ARCHAEOLOGICAL BACKGROUND

2.1 Prehistoric (to AD 43)

2.1.1. During prehistoric times, the Site would have been directly affected by fluctuations in the level of the River Thames/River Lea. Palaeo-environmental evidence from elsewhere on the Thames estuary suggests that the prehistoric landscape of the Thames flood plain would have changed seasonally from one

of complete inundation to relatively drier conditions during the summer months (Wessex Archaeology 1992).

2.1.2. Studies of the Thames Estuary have identified four or five distinct phases of rising (transgression) and falling (regression) water levels. These phases led to the formation of alternating deposits of silt/clay alluvium (linked with transgression phases) and peat (regression phases).

2.1.3. Excavated examples of buried prehistoric land surfaces associated with archaeological remains have been recorded within the Borough of Newham and seem to confirm the idea that people were moving through and utilising the marshland zone between the River Thames /River Lea and the higher gravel terrace to the north.

2.3 Palaeolithic (c. 500,000 – 10,000 BC)

2.3.1. Two flint handaxes dating to the Lower Palaeolithic were recovered in gravel deposits to the north east of the Site.

2.3.2. Excavations at Canning Town Station in the 1990's revealed a sequence of gravels, sands, peats and alluvial clays dating from the Late Devensian Period (11000-9500 BC) through to the Late Holocene (4300 BC) (Sidell *et al* 2000 pp.99-101).

2.4 Neolithic – Bronze Age (*c*. 4000 – 700 BC)

2.4.1. A number of excavated sites within the Borough of Newham have produced archaeological remains dating from early the Neolithic to late Bronze Age.

2.4.2 .A buried soil containing Neolithic and Bronze Age artefacts, as well as a sterile peat horizon was recorded during excavations at the Royal Docks Community School at the southern end of Prince Regent Lane.

2.4.3. A peat horizon with a notable natural 'desiccated woody layer' and associated artefacts was recorded at a depth of –0.30m above Ordnance Datum (aOD) during excavations at Butchers Road / Russell Road.

2.4.4 .A number of Bronze Age timber trackways in topographically comparable areas to the Site have been recorded in Beckton and Silvertown. (Meddens 1995).

2.5 Iron Age (*c*. 700 BC - AD 43)

2.5.1 Little evidence from this period has been found in this part of the Borough. Although a layer of peat, uncovered during excavations at Butchers Row / Russell Street has been tentatively dated to this period.

2.5.2 This lack of evidence for large-scale settlement in the area probably indicates that the area was unsuitable for full-time settlement. However, the marshy margins would have certainly been an important area for the procurement of food and plant materials.

2.6 Romano-British (AD 43-410)

2.6.1 Although the Site lay close to the Roman city of London (*Londinium*) there is no recorded evidence for substantial Roman activity from this part of Newham.

2.6.2 However, the Site's position within the extensive marshlands of the River Lea/Thames and its proximity to the expanding and prosperous city of *Londinium* means that it would have been an important area for the procurement of food and materials for Roman London. As with other low lying marshland areas in the country at this time, the area would have been managed in some way. This probably took the form of small-scale drainage.

2.7 Anglo-Saxon (AD 410 – 1066)

2.7.1 There is little evidence of Saxon occupation in this part of the borough.

2.8 Medieval (AD 1066 – 1499)

2.8.1 In 1087 the Site was within the Manor of (West) Ham, which is recorded in Domesday Book as being of "8 Hides" and was owned by Ralph Gernon and Ralph Peverel (Powell 1973, 45).

2.8.2 By the 12th century, a Cistercian monastery had been established at Stratford-Langthorne. The monastery remained the major landowner in the area until the dissolution of the monasteries in the early 16th century (*ibid.*).

2.8.3 During the medieval period, the Site was part of the Plaistow Levels an area of fertile low lying land which supplied both the local areas and the City of London with fruit, cereal crops and livestock. Excavations at the Royal Docks Community School and at Chadswin Road have revealed parts of a medieval drainage system and evidence of medieval plough marks.

2.9 Post-medieval and Modern (AD 1500-Present Day)

2.9.1 The recorded archaeology for this period is scant and reflects the land-use indicated by the cartographic and literary evidence. What evidence we do have in the form of "cultivation soils" and quarry pits, testifies to the area's agricultural and essentially rural character up until the relatively modern period.

2.9.2 Literary references from the 18th century imply that the area was a region of high agricultural yield and excellent land for rearing livestock with the '*largest Ox in England'* said to have been bred on the fertile pastureland of the Plaistow Levels (Spencer-Curwen, 1734).

2.9.3 John Rocque's map of 1746 depicts a series of country lanes running southwards from the small hamlet of Plaistow across the Plaistow Levels to the Thames. The north- south alignment of these lanes is still reflected in the present day course of Prince Regents Lane, Butchers Road and Freemason's Road.

2.9.4 The potential of the area to provide the space needed for industrial development of the capital and the necessary housing to go with it, led to a rapid change in the land-use and development of the marshland of the Plaistow Levels. The traditional ditch drainage systems of the Levels were consolidated and canalised and sewers were laid, permanently reclaiming the low-lying marshland.

2.9.5 The 19th century saw the area along the Thames and Bow Creek given over to industrial use. These included the Thames Ironworks and Shipbuilding Company founded at Canning Town in 1846, as well as numerous coal wharves along Bow Creek and other diverse industries whose processes were deemed too noxious to be welcomed closer to the City.

2.9.6 The opening of the Victoria Dock in 1855, and the construction of the railway to serve it (Canning Town station was opened in 1846) completely changed the nature of the area the 19th century. The new and burgeoning Royal Docks required a large labour force and this lead to the construction of new, often poor quality, housing and associated infrastructure.

2.97 The second edition of the Ordnance Survey, published in 1894-96 (not illustrated), shows that by this time the marshland of the former Plaistow Levels had mainly given way to urban settlement.

2.9.8 The street pattern and the mix of housing, industry and transport infrastructure which evolved in the end of the 19th century remained in place until the mid 20th century.

2.9.9 The closure of the Royal Docks in 1981 and the advent of "Docklands" as area of luxury housing have further changed the character of the area.

3 AIMS AND OBJECTIVES

3.1.1 The objectives of the evaluation were to establish and record, as far as reasonable possible, the presence/absence, location, nature, extent, date, quality, condition and significance of any surviving archaeological deposits, features and palaeo-environmental information within the Site.

3.1.2 In particular, the evaluation sought to establish and record any archaeological deposits or features associated with past human occupation and activity within the alluvial and peat deposits on the flood plain of the River Thames /River Lea (Bow Creek).

4 EVALUATION METHODOLOGY

4.1 Methodological Standards

4.1.1 All works were conducted in accordance with the guidance and standards outlined the Institute of Field Archaeologists' Standard and Guidance for Archaeological Field Evaluations (2001) and in accordance with a Written Scheme of Investigation (Wessex Archaeology 2004) submitted and approved prior to commencement of the fieldwork.

4.1.2 Prior to the commencement of fieldwork, arrangements were made with the Museum of London for deposition of the archive and finds, subject to agreement with the landowner. A Museum of London Site Code VDR 04 was allocated at this time.

4.2 Health and Safety

4.2.1 All works were carried out in accordance with the Health and Safety at Work etc. Act 1974 and the Management of Health and Safety regulations 1992 and

all other relevant Health and Safety legislation and regulations and codes of practice in force at the time.

4.2.2 Prior to the commencement of the works a risk assessment was carried out and staff were briefed about site health and safety requirements. Copies of the risk assessment and health and safety method statement were supplied to the Client for approval.

4.3 Fieldwork

4.3.1 The evaluation comprised the excavation of two 7m x 7m Trenches. Excavated to a depth (with stepping) of and. These were located in the area of the Site likely to be effected by the proposed development and where the ground conditions were suitable (**Figure 1**).

4.3.2 The Trenches were excavated using a 360°, tracked, mechanical excavator, operating under continuous archaeological supervision.

4.3.3 All spoil from the excavations was scanned visually for artefacts.

4.3.4 The Trenches were positioned on the ground by measurements from features present on accurate and detailed maps (e.g. boundaries or buildings).

4.4 Recording

4.4.1. All revealed soil deposits were recorded on Wessex Archaeology *pro forma* sheets.

4.4.2 A plan and representative section of the trench was recorded by means of drawings at a scale of 1:20 for plans and 1:10 for sections, The Ordnance Datum (OD) height of all principal features and levels was calculated and plans/sections were annotated with OD heights.

4.4.3 A full, monochrome and colour 35mm photographic record was also made of the sections and Trenches.

4.5 Environmental Sampling Strategy

4.5.1 The strategy for sampling archaeological and environmental deposits and structures was developed in consultation with Wessex Archaeology's environmental manager Dr. Mike Allen and was set out in the Written Scheme of Investigation (Wessex 2004).

4.5.2 Key stratigraphical elements were sampled. This took the form of two overlapping undisturbed sediment samples (monoliths) of the entire sequence in Trench 1. These were subsampled for pollen, microfossils and geoarchaeological examination. Bulk samples were taken for plant macrofossils from selective horizons from each trench (20 litre samples).

4.5.5 Evaluation of environmental samples consisted of:

Geoarchaeological and sedimentary architecture.

Processing and assessment. of the results of the bulk samples (charred, water logged and molluscan).

5 RESULTS

5.1 Introduction

5.1.1 Detailed summaries of the trenches are presented in **Appendix 1** and full details are available in the project file. In the following sections context numbers are given in bold.

5.1.2 No archaeological features or finds were uncovered during the evaluation. However the sides of the two trenches did reveal a sequence of horizontal layers of alluvial clays, peats and fine sandy gravels. These were duly sampled (See Section 5 below) the analysis of which have greatly added to our understanding of the past environment and landscape of the area. The following sequence of deposits was observed:

5.1.3 The earliest deposit was a mixture of coarse sand and fine angular gravel (**206**) this was noted at the base of Trench 2 at a depth of –3.30m OD. A 0.15m thick layer of fine sandy peat (**205)** overlay this natural fluvial layer. This deposit contained frequent fragments of shell and occurred only in Trench 2, where it was observed at a depth of –3.20m OD. A 1.80m thick deposit of light bluish grey fine alluvium clay (**204**) (**1010**), which contained numerous fragments of unworked wood, but no other inclusions, overlay this layer. These wooden fragments were mainly branches, twigs and larger tree trunks which still had their roots attached, appear to have been trees, which had died close by rather than been carried to the Site as flotsam. This alluvial horizon was observed in both trenches (Trench 1 at a depth of –1.70m 0D and in Trench 2 at –1.40m OD). Above this was a deposit of fine organic peat (**203**) (**109**) (**107**) (**105**) This peat deposit, which represented a period of dryer conditions on Site, was noted in both trenches, at a depth of –0.60m OD in Trench 2 and at –0.90m OD in Trench 1. In Trench 1 a series of thin lens of light grey fine alluvial clay (**108**) (**106**) marked periods of sporadic flooding on Site. Above the peat deposit of (**203)** (**105**) a 0.90 - 1.00m thick layer of light brownish orange, clay with no inclusion (**202**) (**102**) marked the return to wetter conditions on Site. This deposit of alluvial clay was seen in both trenches. A 1.00m thick layer of modern demolition (**101**) (**201**) covered the entire Site and formed the latest horizon observed during the evaluation.

5.2 Environmental Evidence

See Appendix 2

6 CONCLUSION AND DISCUSSION

6.1.1 No archaeological features were observed during the evaluation.

6.1.2 Beneath 1m of modern disturbance, which had removed any evidence of a former topsoil, a sequence of alluvial clays and peat (**102-110 202-206**) where recorded.

6.1.3 Beneath the layer of modern disturbance, lay a thick layer of fine alluvial clay. This has been dated, through analogy with other sites in the area, to the Iron Age (700 BC – A.D 430). This deposit represented a period of increased inundation due to either a shift in the course of the Thames /Bow Creek or a slight rise in sea levels.

6.1.4 At the base of Trench 2, a coarse sandy fine fluvial gravel (**206**) have been dated, by analogy with similar sites in the area, to the late Devensian period (1100-9500 BC) the represents the earliest deposit uncovered on Site.

6.1.5 Post Iron Age deposits have been lost through later truncation but it must be assumed that the area was, in common with the rest of the Plaistow Levels, open farmland until the development of the area in the 18^{th} – 19^{th} centuries

6.1.6 Wessex Archaeology would recommend that no further archaeological fieldworks be undertaken on the Site.

7 THE ARCHIVE

7.1. The completed project archive was prepared in accordance with the *Guidelines for the preparation of excavation archives for long term storage* (UKIC 1990).

7.2 The archive from the project, including the finds and environmental samples, is currently being held at the offices of Wessex Archaeology at Old Sarum, Salisbury, Wiltshire under the Wessex project code 58470.and subject to the wishes of the landowner will be deposited with the Museum of London.

7.3 Details of the evaluation were entered onto the online "Oasis" database, maintained by the Archaeological Data Service (ADS)

8 REFERENCES

British Geological Survey	1998	*Geological map of England and Wales*, Sheet. 257. East London
English Heritage	1988	*London Region Standards and Practices in Archaeological Fieldwork* - Archaeological Guidance Paper 3
Institute of Field Archaeologists	1994	*Standard and Guidance for Archaeological Excavations*
Medders, F.	1995	*Bronze Age Trackways – East London.* Current Archaeology. 143
Museum of London Archaeological Services (MoLAS)	2000	*The Archaeology of Greater London*
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Powell, W.R. (Ed.)	1973	*The Victoria History of the County of Essex*, Volume VI, Oxford
Sidell, J. Wilkingson, K. Scaife, R. Cameron, N.	2000	*The Holocene Evolution of the London Thames, Archaeological excavations (1991-1998) for the London Underground Limited Jubilee Line extension Project* (MoLAS)
Spencer-Curwen, J	1734	*Plaistow a Poem*. London Magazine
Wessex Archaeology	1992	*Beckton Savacentre Site Archaeological Site Investigations*. (Unpublished)
Wessex Archaeology	1996	*Butchers Road, Canning Town, London. Archaeological Field Evaluation.* (Unpublished)
Wessex Archaeology	2004	*Written Scheme of Investigation for Archaeological Evaluation 118 Victoria Dock Road E16* (Unpublished)

APPENDIX 1. TRENCH SUMMARY TABLES

All (+) indicate deposits/features not fully excavated
‘ Depth’ equals depth from the present ground surface

TRENCH 1			
	Length: 700m	**Width:** 7.00m	**Max. Depth**: 4.60 m
Context	**Description**		**Depth**
101	Modern demolition rubble		0.00-090m
102	Alluvium- brown clay		0.90-1.75m
103	Alluvium-Orange brown		1.75m-1.70m
104	Alluvium-Mid grey blue clay		1.70m-1.90m
105	Peat		1.90m-2.00m
106	Alluvium -Clay		2.20m – 1.15m
107	peat		2.00m 2.65m
108	Alluvium -Clay		2.65m – 2.60m
109	Peat		2.60m-2.75m
110	Alluvium-Clay		2.75m-4.60m (+)

TRENCH 2			
	Length: 700m	**Width:** 7.00m	**Max. Depth**: 4.70 m
Context	**Description**		**Depth**
201	Modern demolition rubble		0.00-0.80m
202	Alluvium-Clay		0.80-1.55m
203	Peat-		1.55m-2.50m
204	Alluvium- Clay		2.50m-4.20m
205	Peat		4.20m-4.30m
206	Fluvial- Coarse sandy fine angular gravels		4.30m-4.70m (+)

APPENDIX 2. PALAEO-ENVIRONMENTAL ASSESSMENT REPORT

The Site, centred on NGR 539876 180859, comprises a small plot of land proposed for redevelopment within an area of commercial properties and warehouses. It is located on low-lying reclaimed marshland <0.5km north east of the confluence of the River Lea (Bow Creek) with the River Thames and is adjacent to the Royal Victoria Docks. The geology of the area is mapped as alluvium over river gravels and the Eocene London Clay Formation (BGS 1998 sheet 257, BGS 1989 sheet 51N-00º).

Two 7m x 7m trenches were machine dug *c*.10m apart during evaluation, the southern one being Trench 1, the northern Trench 2. Trench 1 exposed the sediment sequence to a depth of 4.6m below ground surface (+1.1m OD to –3.5m OD), but backfilling for safety meant that only the sequence to 3.5m (-2.4m OD) was recorded (Appendix 1). Trench 2 exposed *c.*6m of deposits below ground surface (+1.05m OD to *c*.-5m OD), and this sequence is extended by geotechnical logs. No archaeological finds or features were recorded.

Detailed standard description according to Hodgson (1976) was undertaken on a cleaned surface for the two monoliths from Trench 1, and Munsell colour established, as given below in Appendix1. The sediments were assigned to sedimentological units to aid description and to allow comparison with others. 1cm thick samples were taken from selected layers to allow assessment of pollen and foraminifera or diatoms should these be required. Material suitable for radiocarbon dating recovered was also, as detailed in Appendix 1. The bulk samples have been retained and a broad assessment of potential indicated.

The depth and penetration of the water table causing rapid ingress of water in Trench 2 precluded safe close observation, so descriptions of the sedimentary sequence were made from ground level, and the depths recorded as greater than 4.6m are approximate (the sequence is summarised in Appendix 1. However, grab samples were retrieved from the digger bucket for the lower layers.

Geotechnical logs of two boreholes previously recovered from the same location as the two trenches were examined. The descriptions of the basal gravels and underlying London Clay are included in Appendix 1 and the findings have been taken into account in the interpretation of the site sequence, below. Comparison was made to sedimentary sequences previously established in the local area e.g. Crockett *et al*. 2002; Wilkinson *et al.* 2000, Sidell *et al.* 2000; 2002).

SAMPLES ASSESSED AND PALAEO-ENVIRONMENTAL EVIDENCE

Trench 1	monolith 1 and 6
Trench 2	bulk sample 11

The monoliths of undisturbed sediment provide the sedimentary context and a single bulk sample (11, context 205), from trench 2 was processed for the recovery of waterlogged plant remains, waterlogged wood, charred remains and Molluscan. Subsamples were taken from the monoliths and assessed for pollen and diatoms. The aim of assessment of sample from context 205 was in the first instance to determine if this was a glacial or post glacial deposit.

The categories of palaeo-environmental evidence assessed were:

sediments
pollen
diatoms
waterlogged plant remains
waterlogged wood
charcoal
mollusca (land and aquatic)

Assessment Results

The Sedimentary Sequence

by Catherine Chisham

Field descriptions were made to a depth of 3.5m (-2.4m OD) in Trench 1 and samples taken. The samples comprised two continuous monoliths from 1.2m-3.4m below ground (-0.1 m OD to –2.3m OD) and a series of eight 5L bulk samples of the waterlogged sediments.

The sedimentary sequences described in detail from Trench 1 and recorded in Trench 2 are given in Appendix 1. The waterlogged alluvial sedimentary sequence was comparable in both trenches, although the basal sands and gravels only reached in Trench 2. All layers were relatively horizontal and generally continuous, allowing direct correlation of the units. Preservation of plant remains by waterlogging was found to be exceptional and molluscs were found to be abundant in particular horizons, as detailed below.

It is suggested the basal sands and gravels (unit 8, context 206) were laid down by a high–energy river regime and are probably of Devensian age (cf. The Shepperton Gravel, Bridgland 1994; Gibbard 1994; Sidell *et al.* 2000). The fine alluvial sediments and peat of units 6 and 7, context 205, represent a lower energy (estuarine) system and postglacial conditions, with the peat forming in locally drier phases. These sequences equate to other alluvial sequences in the area known as the Tilbury deposits/ formation (Gibbard 1994). The increase in organic matter of the peat shows some stabilisation of the area and the abundant plant remains (which were exceptionally well-preserved) suggest the area was well-vegetated during deposition. Indeed, it was observed that in Trench 2 whole tree trunks lay horizontally on and above the peat surface, within the overlying fine alluvium, some with roots remaining. It is suggested this was a wooded or partially wooded area that became increasingly flooded, the waterlogged conditions causing the trees to die. There was no clear evidence of a hiatus above the gravels, and it may be these deposits are of early Holocene date. Assessment has shown alder and oak is represented, indicating a Late Mesolithic or later date (i.e. postglacial).

Thick layers of the overlying fine alluvium represented in units 5 and 3 (context 204) showed faint horizontal banding and were interrupted by fine organic inwash and a thin band of peat (units 4a and b). This indicates edge conditions, that the site was peripheral to the main channel, but subject to inundation. The substantial body of peat (unit 2) overlying the fine alluvium was formed under wet but terrestrial conditions, as evidenced by the quantity and type of plant inclusions (notably wood) and rooting within it. That it formed following a gradual shift in channel position or lowering of energy is indicated by the gradual increase in organic matter to the alluvium prior to formation of *in situ* peat. The Site remained in close proximity to the river edge and

was subject to sporadic flooding, as evidenced by the layers of increased minerogenic content which interrupt it (units 2e and c). While there is no clear evidence of a defined land surface within the peat, this was a relatively stable wetland environment that would have afforded humans access to the area during its accumulation.

A clear, and in some locations within Trench 1, sharp boundary to the massive body of fine alluvium of unit 1 (context 202) indicates a relatively rapid rise in water level in the later history of the Site. This was either due to a shift in channel position (due to meander) or a slight rise in energy and base level due to sea level rise/ marine transgression, Devoy 1979). The wetlands became inundated and subject to overbank sedimentation once more. The chronology of this upper portion of the sequence is unclear but alluviation post-dating peat formation elsewhere in the area has been described as forming from 750-400 cal BC (Wilkinson *et al*. 2000) and deposition of this alluvium may well have been rapid. Unit 1a was observed to have undergone extensive translocation and redeposition of iron oxides within the profile, indicating the upper sequence dried out and became oxidised after deposition. However, any soil profile that once developed on its surface has been removed by human activity, with recent made and disturbed ground occurring at the top.

Pollen

by Rob Scaife

Eight samples have been examined from the Thames floodplain peat and alluvial sediments from the sequence samples in monoliths 1 and 6. The samples were as follows:-

depth	*Pollen sample at*	*Radiocarbon results*	*Summary sediment type*	*Unit*
0 – 0.9			Made ground	0
0.9-1.84			Overbank minerogenic alluvium	1
1.84-2.34	188cm 212cm	188cm: 3040±30BP 1400-1130 cal BC	Humified edge/fen peat	2a
2.34-2.39	236cm		Organic alluvium	2b
2.39-2.47			Minerogenic alluvium	2c
2.47-2.57	252cm		Humified edge/fen peat	2d
2.57-2.60			Lens of alluvium	2e
2.60-2.76		275cm; 4483±35 BP 3350-3030 cal BC	Humified edge/fen peat	2f
2.76-2.85	276cm		Organic alluvium	2g+2h
2.85-3.09	300cm		Minrogenic alluvium	3
3.09-3.16	316cm		Minrogenic alluvium with organic inwash	4a
3.16-3.17			Black fibrous peat	4b
3.17-3.4+	332cm		Alluvium	5
		c. 575cm: 5012±30 BP 3940-3700 cal BC	Sandy peat	6

The accretion of these relate to the patterns of eustatic changes which took place within the Lower Thames during the late Holocene. Samples taken have been assessed with the following objectives in mind:

- To determine the presence or absence of pollen in the sediments from both sequences and any potential for a more detailed pollen analysis.

- To provide preliminary data on the depositional habitat and the surrounding vegetation environment and temporal changes.
- Potential for comparing this site/sequence with the existing model of London's changing prehistoric vegetation and environment.
- To indicate any potential for a fuller analysis.
- To indicate the presence or absence of diatoms in the sediments which would provide indications of any salinity content and thus past brackish water/tidal ingress.

Methods

Samples of 2ml volume were processed using standard techniques for the extraction of the sub-fossil pollen and spores (Moore and Webb 1978; Moore *et al.* 1992). Micromesh sieving (10μ) was also used to aid with removal of the clay fraction in the mineral sediments. The absolute pollen numbers/frequencies in the samples were calculated using added exotics to known volumes of sample (Stockmarr 1971). The sub-fossil pollen and spores were identified and counted using an Olympus biological research microscope fitted with Leitz optics. A pollen sum of up to 200 grains of dry land taxa per level was counted for each level where possible. Additionally, all extant spores and pollen of marsh taxa (largely Cyperaceae), fern spores and miscellaneous pre-Quaternary palynomorphs were also counted for each of the samples analysed. Percentages have been calculated in a standard way as follows:

Sum =	% total dry land pollen (tdlp).
Marsh/aquatic =	% tdlp + sum of marsh/aquatics (incl. *Alnus* and *Salix*)
Spores =	% tdlp + sum of spores.
Misc. =	% tdlp + sum of misc. taxa.

Alnus has been excluded from the pollen sum because of its high pollen productivity (its consequent abundance) and its on, or near site growth which tends to distorts the percentage representation of other taxa within the pollen sum (Janssen 1969). Consequently the percentages of alder have been incorporated within the fen/marsh group for which it is botanically a part of. Because *Salix* (willow) may be associated with this fen carr taxon/habitat, this was also been included in this calculation. Taxonomy, in general, follows that of Moore and Webb (1978) modified according to Bennett *et al.* (1994) for pollen types and Stace (1992) for plant descriptions. These procedures were carried out in the Palaeoecology Laboratory of the Department of Geography, University of Southampton.

Assessment Results

Sub-fossil pollen and spores were obtained from all of the samples examined and a total of 34 taxa recorded in this assessment. However, absolute numbers in the peat were in places low and counts were obtained only with difficulty. This is, however, a phenomenon typical of the middle and early late Holocene Thames peats once floodplain alder carr woodland had become established and the depositional environment became drier and more micro-biologically active especially during summer months.

Although the sequence spans some 1.5 metres of sediment, there are few overall palynological changes. Consequently, no preliminary pollen zonation has been carried out. The overall characteristics of the assemblages are detailed as follows.

Trees and Shrubs: These are dominant throughout with values to 98% of total pollen. *Alnus* (alder, as noted above) has been calculated outside of the pollen sum and placed within the wetland category since this was clearly an autochthonous (on-site) component. *Quercus* (oak: to *c.* 50%) with *Tilia* (lime: to 18%) and *Corylus avellana* type (here, hazel rather than sweet gale: to 40%) are the dominant terrestrial taxa. There are small numbers of other taxa including *Betula* (birch), *Pinus* (pine) *Ulmus* (elm) and *Fraxinus excelsior* (ash). A single occurrence of *Picea* (spruce) is discussed (below).

Herbs: Numbers and diversity of types are low. Only Chenopodiaceae (goosefoots and oraches) and small maxima of Poaceae (grasses) are of note. The latter is in the upper level at 1.90m (20%). There are no clear indications of human activity in the form of *Plantago lanceolata*, cereal pollen or other anthropochorous taxa.

Wetland/Marsh: *Alnus* is dominant (to >90% sum+marsh) especially in the basal part of the profile. There are sporadic occurrences of other fen taxa which include *Salix* (willow), *Iris*, *Typha/Sparganium* (reed mace and bur reed)and Cyperaceae (sedges).

Spores of ferns: These become progressively more important up the profile which is in part due to the poorer pollen preserving conditions also evidenced by the decrease in absolute pollen frequencies. These taxa include monolete, *Dryopteris* type (typical frond ferns) from *c.* 2.36m, *Polypodium vulgare* (common polypody fern from 2.76m. and *Pteridium aquilinum* (bracken) increasing from 2.12m. to 37% (sum + spores) in the top level.

Diatom Assessment

Catherine Chisham

The eight samples assessed for pollen have also been examined for presence or absence of diatoms. If present, these microfossils were expected to provide a valuable indication of the saline or freshwater status of the environments in which the sediments were deposited.

Preparation of the samples used digestion of humic/organic material using Hydrogen Peroxide. Samples were dried on microscope cover-slips and mounted on microscope slide using Naphrax mounting medium. Examination was carried out at high power x400 and x1000 using a biological microscope (see pollen method above).

Diatoms were present in only 1of the 8 samples, that is, from the basal minerogenic sediment at a depth of 3.32m. However, diatom frustules were badly degraded. Taxa comprised solely, small number of Centric forms.

Radiocarbon

Samples have been taken from monoliths and examined to provide dates for the main peat sequence (unit 2), in addition alder (*Alunus* gluntinosa) twig wood was selected from bulk sample 11 from unit 6.

Context	*material*	*lab no*	*result no*	δC^{13} ‰	*result BP*	*cal date*
top unit 2	twig at 185cm	R28909/1	NZA-22395	-28.51	3040±30	1400-1130
bot unit 2	twig at 275cm	R28909/2	NZA-22533	-25.81	4483±35	3350-3030
unit 6	Alder twig @ 550-575cm	R28909/3	NZA-22396	-29.73	5012±30	3940-3700

Context 205; Unit 6 (3940-3700 cal BC)
A single sample (sample 11) was processed for the recovery of waterlogged plant macrofossils, molluscan remains and any further artefacts, including wood charcoal. Assessment of the grab sample from context 205 was to attempt to elucidate the potential to determine the timing and nature of the environment during the accumulation of this potentially early Holocene peat. The sample was collected from unit 6 (context 205) at *c*.5.5-5.7m (-4.45 to -4.7mOD) in Trench 2 from a finely divided calcareous sandy silt peat. Well-preserved waterlogged plant macrofossils including very abundant mature wood and twigwood and whole tree trunks were observed on the surface of this layer during machine trenching (Wessex Archaeology 2004). The peat overlay a fine band of silty alluvium and basal gravels (probably of Devensian age (cf. The Shepperton Gravel, Bridgland 1994; Gibbard 1994; Sidell *et al.* 2000). It was overlain by thick bodies of fine alluvium and peat believed to equate to other alluvial sequences in the area known as the Tilbury deposits/ formation (Gibbard 1994).

Method
A sub-sample of 1 litre from sample 11 was processed for the recovery of waterlogged remains. Laboratory flotation was undertaken with flots retained on a 0.25mm mesh and residues on a 0.5mm mesh. Residues were fractionated into 5.6mm, 2mm and 1mm groups and 0.5mm and 0.25mm fractions before storing in sealed containers with Industrial Methylated Sprits (IMS). Any coarse (>5.6mm) non-waterlogged fraction was sorted, weighed and discarded.

A sample of 1500g was processed by standard methods (Evans 1972) for land snails. The flots (0.5mm) were rapidly assessed by scanning under a x10 - x 30 stereo-binocular microscope to provide some information about shell preservation and species representation.

The remaining 4 litres were artefact sieved for larger plant macros, mollusc, animal bone and wood charcoal though a 4mm and a 2mm sieve.

The flots were scanned under a x10- x30 stereo-binocular microscope. As little material was noted within either the waterlogged sample of the mollusc sample and none smaller than 2mm, only the artefact sample was used within this assessment and the results presented all come from this part of the sample. Plant macros were identified where possible following the nomenclature of Stace (1997). The results for plant macros and animal bone are recorded in table E1. The numbers of shells and the presence of taxonomic groups are presented and quantified in Table E2.

All large (>50mm) waterlogged fragments plus randomly selected smaller mature and twigwood fragments were taken from the waterlogged bulk sample 11. A fine slice was taken for each fragment along three planes (transverse section (TS), radial longitudinal section (RL) and tangential longitudinal section (TL) using a razor blade. The pieces were mounted in water on a glass microscope slide, and examined under bi-focal transmitted light microscopy at magnifications of x50, x100 and x400 using a Kyowa ME-LUX2 microscope. Identification was undertaken according to the anatomical characteristics described by Schweingruber (1990) and Butterfield and Meylan (1980) to the lowest taxonomic level possible, usually that of genus.

A small charcoal assemblage was also recovered during processing. Fragments ≥4mm were fractured in three planes and identified following the same method as the waterlogged wood.

Waterlogged Plant Remains

Chris Stevens and Sarah Wyles

Whole shells and fragments of hazelnut (*Corylus avellana*) and cones, catkins and fruits of alder (*Alnus glutinosa*) dominated the waterlogged plant remains. That remains of alder by far outnumbered fragments of hazelnut probably indicates the dominance of this species within the local vegetation. Other species were relatively rare within the samples, although positive identifications of both bramble (*Rubus* sp.) and elder (*Sambucus nigra*) were made.

While alder (*Alnus glutinosa*) would appear to be dominant and is a common find within waterlogged deposits, hazelnuts (*Corylus avellana*) are more rarely found. Their presence would indicate at least mature trees/shrubs growing in close proximity to the river. There were no indicators of more open or even partially shaded riverside or wet environments as might be indicated by seeds of sedges, rushes, nettles etc. The indication is then of a dense alder-hazel woodland growing up to the rivers edge.

Waterlogged Wood

Catherine Chisham

The waterlogged wood assemblage comprised slightly to well humified fragments of fresh and rounded (water eroded/ transported) mature wood up to 10cm maximum dimension and twigwood, the latter forming approximately a third of the sample by fragment number. The large mature wood fragments (>5cm) consisted of two *Alnus glutinosa* (alder, large roundwood), one *Fraxinus excelsior* (ash) and two highly humified fragments cf. *Fraxinus excelsior*. Two smaller fragments of mature *Quercus* sp. (oak) were also identified. Of the twigwood examined, four fragments were of *Alnus glutinosa* and one cf. *Corylus avellana* (hazel). Several fragments of bark (likely *Alnus glutinosa*) were also noted and many fragments of wood (notably the twigwood) retained their bark.

It is suggested that the stable landsurface was wooded, or partially wooded, and became increasingly flooded, the waterlogged conditions causing trees to die and fall *in situ*. This is supported, alder will tolerate waterlogging but not submersion, and the presence of hazel, oak and ash indicate drier (perhaps edge) conditions had previously established in the immediate area. It is possible the flooding event relates to marine transgression in the area (cf. Devoy 1979; Sidell 2000, 2002).

Charcoal

The small charcoal assemblage comprised 7 fragments ≥ 4mm, which were identified as three mature *Fraxinus excelsior* (ash), one mature *Ulmus* sp. (elm) and three juvenile wood cf. *Frangula alnus* (alder buckthorn) probably derived from one fragment. In addition thirteen small fragments (max. 2-4mm) were recovered, a few of which might be identifiable. All charcoal was clean, fresh and in good condition.

Common deciduous woodland taxa in both waterlogged and charred form have, therefore, been recorded from context 205 (unit 6). *Alnus glutinosa*, both mature and twigwood is common in the assemblage and a scan of the remainder of the twigwood

indicates it is the dominant taxa in the waterlogged assemblage, seemingly representing alder carr. Since whole fallen tree trunks were observed at this level and well preserved twigwood common in the sample, it is believed much of the wood is *in situ* and provides a very rough chronology for the sedimentary sequence.

Land and Aquatic Molluscs

by Chris Stevens and Sarah Wyles

Both land and aquatic mollusc shells were recovered within the artefact sample. The main water species was *Bithynia* sp. a species of flowing rivers and steams. The ratio of opercula to adult shells is often representative of the degree of water flow. The other taxa recovered is *Pisidium* spp.

The land mollusc remains were dominated by *Discus rotundatus* a species more characteristic of shaded conditions. Several shells and fragment of *Cepaea/Arianta* were also recovered a catholic species found in both open and shaded conditions.

Animal Bones

Four animal bones were recovered. Two limb bones and a jaw bone probably come from smaller mammals, voles, shrews etc. A further bone was recovered that came from the hand/foot of a medium sized mammal.

Potential

The Sedimentary Sequence

The wetlands represented by the alluvial and peat sequence at Victoria Dock Road were probably unsuited to occupation but would have offered opportunities for a variety of economic activities such as fishing and fowling, watering of livestock and access to water for local populations through the Holocene. While no artefacts or features were found here, prehistoric activity and occupation has been documented for sites within the local area. A Neolithic trackway or platform was found at Silvertown (Crockett *et al.* 2002) and a buried soil containing Neolithic and Bronze Age artefacts was recorded at the Royal Docks Community School, Prince Regent Lane. A desiccated woody peat was recorded at –0.30m OD at Butchers Road / Russell Road (Wessex Archaeology 1996). Small amounts of pottery were recovered from the junction of the peaty layer with the underlying grey silt deposits and the fragments tentatively dated to the late Bronze Age possibly early Iron Age period. A number of Bronze Age timber trackways in topographically comparable areas to the Site, have been recorded in Beckton and Silvertown. (Meddens 1995; Wessex Archaeology 1992). Indications of Bronze Age activity and impact on the landscape have also been noted in local palaeoenvironmental studies (e.g. Blackwall Tunnel, Chisham 1993). The deep waterlogged sequence 118 Victoria Dock Road does, therefore, have the potential to record local human activity in terms of landuse and changes to the natural vegetation through changes in the pollen, microcharcoal and mollusc assemblages.

The preservation of wood and visible herbaceous material was good and numerous molluscs were observed in some layers. However, due to the lack of recorded archaeology it is suggested that environmental analysis should be limited to key aspects which will allow direct comparison with local waterlogged sequences of archaeological importance, notably the similar but shallower Neolithic-Bronze Age sequence at Silvertown (Crockett *et al.* 2002) and to add specific detail to understanding of the sedimentary sequence.

Pollen
The pollen data provide evidence of the on-site and near region dry-land habitats.

The floodplain
The pollen data clearly show that the Thames floodplain at this time and vicinity was one of floodplain, alder carr woodland. Alder values are greatest in the basal sample levels which have greatest apf numbers. This is due to either compaction of these basal levels or a slower rate of peat accretion than in the overlying deposits. However, alder continues to remain important throughout the sequence and is associated with other fen herb taxa including sedges (Cyperaceae), iris, bur reed (*Sparganium*). *Chrysosplenium alternifolium* (golden saxifrage), ivy (*Hedera helix*) and honey suckle (*Lonicera periclymenum*) are also likely to be associated with this habitat. Occasional algal cysts of *Pediastrum* indicate that there was occasional over-bank flooding from areas of slow flowing or standing water. This would be expected in such a floodplain environment.

The near site terrestrial habitats
Tree and shrubs are dominant with no real evidence of forest clearance or agriculture. Small leaved lime (*Tilia cordata*) is present to 20% an given that this taxon is very under represented in pollen spectra (Anderson 1970, 1973), this was probably the dominant or at least co-dominant woodland with oak (*Quercus*) and hazel (*Corylus avellan*) on adjacent ground. The latter, however, along with ash may also have been important elements on lower valley side, heavier soils and drier areas of the floodplain carr. This has also now been demonstrated from a number of sites in London (Greig 1982; 1989; 1992; Scaife 2000a; 2000b; 2000c; 2002). Other woodland elements may have included some elm (*Ulmus*) and birch (*Betula*). Pine (*Pinus*) is, however considered to be from extra regional/long distance sources. A single occurrence of spruce (*Picea*) is unusual but not unprecedented having been found in other floodplain sites in London (Scaife in Sidell *et al.* 2000). As this tree is not native and has poor pollen dispersion, it is possible that long distance marine transport into the Thames Estuary may have taken place. This grain did not have the appearance of having been derived from earlier geological sediments.

Summary
This profile is relatively homogeneous throughout. Pollen suggests an alder carr floodplain habitat with surrounding lime, oak and hazel woodland on adjacent drier ground. Small values of elm suggest occasional presence and a post Neolithic elm decline age for the peat; i.e. post *c.* 5500 to 5000 BP (4350-3750 BC). There is, however no evidence present for human activity of this date.

Diatoms
Diatoms were only present in the basal sample. They have the potential to provide information about whether this sediment was lain-down in a fresh or brackish water environment, which is important for understanding the lived-in environment of the Thames margins.

Radiocarbon results
The Radiocarbon results indicate that the main peat (unit 2) is typical of Thames edge peats from elsewhere in the vicinity (Scaife 2000a; 2000b; 2000c; etc), i.e. encompasses the Late Neolithic (3350-3030 cal BC) Peterborough Ware Phase to the

Middle Bronze Age (1400-1130 cal BC), but that the lower sandy peat encompasses the earlier Neolithic (is 3940-3700) pre Elm decline phase. This is important in that a major phase of alluviation represented by *c.* 0.5m of inorganic minerogenic sediment is represented between the post-elm decline Neolithic and Late Neolithic phases. Further the major peat inundation starts in the Late Neolithic.

Waterlogged plant remains
The plant remains are typical of alder carr at the lowest levels (unit 6), and indicate dry and wetland edge woodland.

Waterlogged Wood
Common deciduous woodland taxa were recorded. *Alnus glutinosa*, both mature and twigwood is common in the assemblage and a scan of the remainder of the twigwood indicates it is the dominant taxa in the waterlogged assemblage, seemingly representing alder carr. The assemblage alone indicates a likely date of to be of Boreal-Atlantic or more recent date (ie Mesolithic-Late Mesolithic or more recent), but see radiocarbon dating. Since whole fallen tree trunks were observed at this level and well preserved twigwood common in the sample, it is believed much of the wood is *in situ* and provides a very rough chronology for the sedimentary sequence.

Charcoal
Although the charcoal assemblage is small, its very presence does indicate burning in the local area contemporary with peat formation (assuming no fluvial reworking and inwash to the peat layer). Given the wetland nature of the environment evidenced by the sediments, natural cause for fire is improbable, instead anthropogenic origin is suggested. The taxa represented are consistent with the waterlogged wood assemblage and likely represent local material.

Land and Aquatic Molluscs
The presence of a largely shady species (*Discus rotundatus*) may indicate a fairly closed canopy woodland or early (ie Mesolithic – Neolithic) date, for which there is little palaeo-environmental evidence other than pollen in this area.

Animal bone
The presence of small mammal bones is not seen as significant, but the presence of other (medium-sized mammal) bone may be significant.

Recommendations and Proposals

Sediments
The sediment descriptions provide the basis of the geoarchaeological report. Although no further work is necessary on these, they should be incorporated into (as appropriate) the final publication geoarchaeological report.

Pollen
No further analysis is anticipated or suggested for this site. This is because

(i.) pollen is relatively sparse and difficult to count throughout most of the profile

(ii.) there are now a substantial number of other Thames floodplain sites with better preservation which have produced useful data

and (iii.) there is no evidence of human activity. However, given these negative comments, it should be stressed that the sequences is of value in demonstrating an area of London where there appears to be little prehistoric activity with the area remaining wooded. Consequently, radiocarbon dates for the profile will provide useful environmental data which may be fitted into the model of London's past vegetation.

Diatoms
It is suggested that the lowest sediment unit (represented) by the sample examined here at 3.32m could be examined and characterised by an expert diatomist, however in view of lack of survival above this, its contribution would be minimal.

Waterlogged wood and charcoal
Sufficient detail on the woody taxa present has been gleaned from this assessment and, as such, no further waterlogged wood or charcoal analysis is required. This data should be incorporated into the final report.

Waterlogged plant remains
No further analysis is recommended beyond this detailed assessment, but this assemblage should be included in a summary form in the final report.

Land and aquatic snails
These indicate a rare an old environment and rapid analysis and summary reporting should be conducted.

Animal Bone
The medium sized mammal bone should be identified and reported upon.

Geoarchaeology report
Although no major analytical programme is proposed the assessment and analytical remains here combined with the radiocarbon determinations and background history (Sidell *et. al* 2000) these findings make a useful contribution to understanding the prehistoric development of the Thames margins and the lived-in environment and should be compiled for a report suitable for publication in *Environmental Archaeology* or *London Archaeologist.*

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Sediment descriptions for monoliths from Trench 1

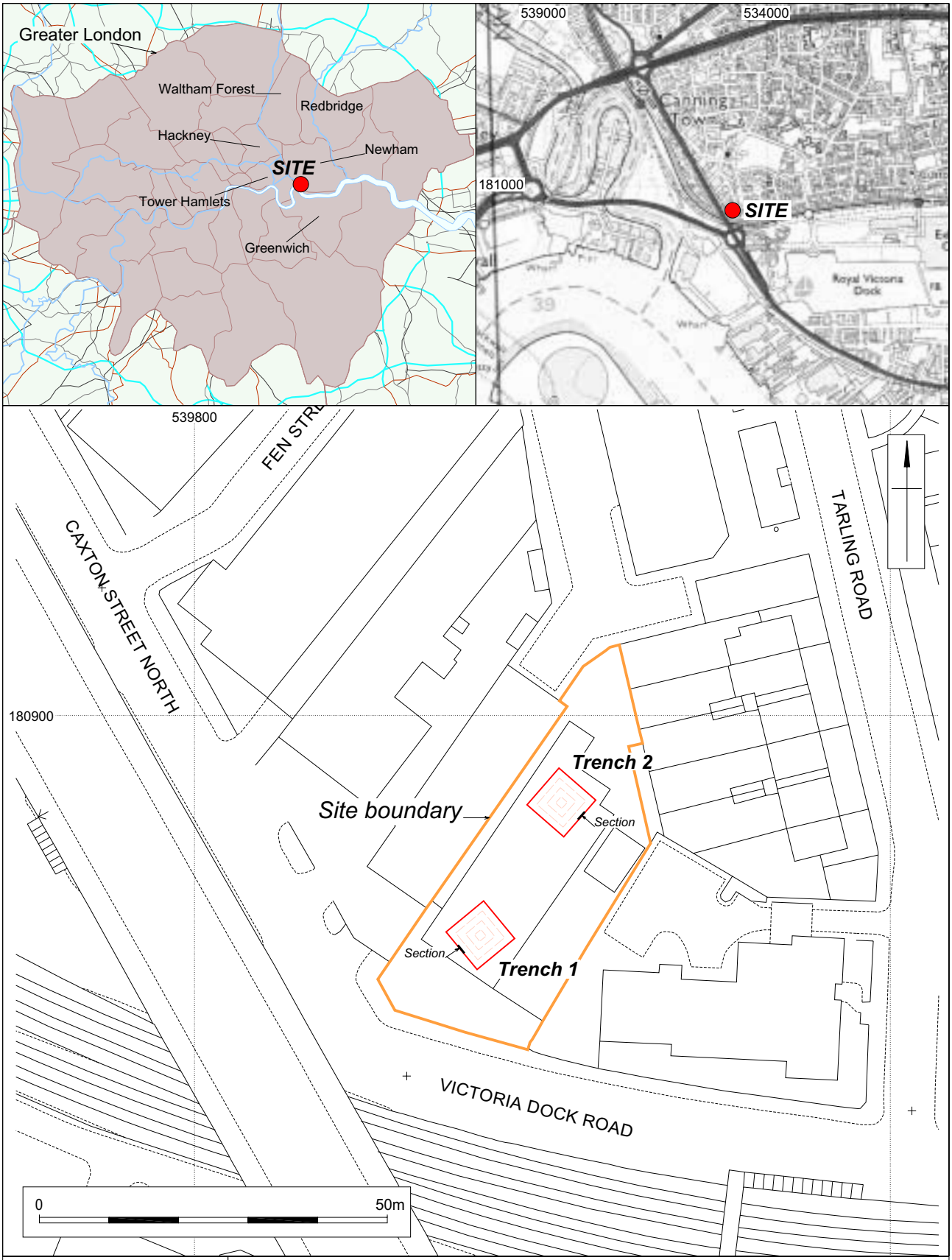
Monoliths 1 and 6, continuous sequence 1.2m-2.4m below ground in Trench 1: monolith 1=2.2-3.4m, monolith 6=1.2-2.2m (field descriptions are given for 0-1.2m depth) 0cm= 1.1m aOD						
Depth (m)	*mOD*	*Pollen and foram. samples*	*Bulk samples*	*Context and excavators description*	*Description*	Unit
0-0.9	+1.1 to +0.2	none		101 Modern made ground	*Disturbed and dumped sandy loam and rubble, pockets of brown silty clay alluvium* *Made ground*	*0*
0.9-1.84	+0.2 to -0.74	132cm 148cm 164cm	<10> 1.35-1.55m	102-103 Orange and orange brown clay	1.2-1.62m 10YR 5/1 grey, abundant coarse medium Fe mottles (10YR 4/4 dark yellowish brown) massive sticky silty clay, mottles and Fe nodules increasing to (disturbed) top of unit (upper 30cm not collected by monolith). Common molluscs. Diffuse boundary *Oxidised alluvium*	*1a*
162-184		172cm 180cm	<9> 1.6-1.8m	104 Grey clay	1.62-1.84m 10YR 5/1 grey with common faint Fe mottles (10YR 4/3 brown) smooth gleyed massive silty clay. Clear (slightly undulating on scale of metres) boundary Alluvium (overbank)	*1b*
1.84-2.34	-0.74 to –1.745	184cm **188CM** 192cm* 196cm* 200cm* 204cm* 208cm* **212CM*** 216cm* 220cm* 224cm* 228cm* 232cm*	<8> 1.85-2.0m <7> 2.0-2.2m <5> 2.2-2.3m	105 Peat	1.84-2.34m 10YR 2/1 black compact, slightly crumbly, well-humified peat. Slight increase in silt content to the top. Occasional fine recognisable plant remains. Common vertical and horizontal roots (not traced into the overlying sediments) and occasional herbaceous stems. Diffuse boundary *Humified edge/ fen peat* **@ 185cm twigwood taken for 14C dating (top of peat)** **@ 232cm large twigwood taken for 14C dating (base of uppermost peat)**	*2a*
2.34-2.39		**236CM**	<4> 2.35-2.45m	106 Light grey clay	2.34-2.39m 10YR 2/1 black humic silt, becoming increasingly peaty to the top. No visible inclusions. Clear boundary Organic alluvium	*2b*
2.39-2.47		240cm 244cm			2.39-2.47m 10YR 3/2 very dark greyish brown smooth moderately organic silt loam, occasional small degraded wood and woody stem fragments. Diffuse boundary Alluvium	*2c*
2.47-2.57		248cm* **252CM***		107 Peat	2.47-2.57m 2.5Y 2.5/1 black grading to 10YR 2/2 very dark brown highly humified compact peat. Common wood and twig fragments at base, increasing minerogenic component up the unit. Clear boundary *Humified edge/ fen peat*	*2d*
2.57-2.60		256cm*		108 Light grey clay	2.57-2.60m 2.5Y 4/1 dark grey clay silt, coarse faint organic mottles, rare small wood fragments. Gradual wavy boundary. NB layer observed in the field to be discontinuous Alluvium	*2e*
2.60-2.76		260CM* 264cm* 268CM* 272cm*	<3> 2.65-2.8m	109 Peat	2.60-2.76cm 10YR 2/1 black moderately humified silty fibrous peat, containing common well-preserved wood and twig fragments. Clear-gradual boundary *Humified edge/ fen peat* *@ 275cm twigwood taken for 14C dating, base of peat*	*2f*

2.76-2.81		**276CM*** 280cm			2.76-2.81cm 2.5Y 4/3 olive brown slightly organic clay silt, occasional wood fragments, with medium 10YR 2/2 dark brown organic mottles. Gradual boundary NB layer observed in the field to be discontinuous *Organic alluvium*	*2g*
2.81-2.845		284CM			2.81-2.845cm 10YR 2/2 very dark brown peaty fibrous silt loam, no recognisable plant remains in monolith (occasional wood in section). Clear-gradual wavy boundary *Organic alluvium*	*2h*
2.845-3.09	-1.745 to -1.99	292cm **300CM** 308cm	<2> 2.9-3.0m	1010 Clay	2.5Y 4/1 dark grey smooth clay silt, faint horizontal banding of sediment, common well-preserved mature and twig wood. Clear boundary *Alluvium*	*3*
3.09-3.16	-1.99 to -2.06				2.5Y 3/3 dark olive brown slightly organic clay silt, faint horizontal fine (<1mm) banding of sediment with black (?organic inwash), twigwood at 3.09-3.11m. Sharp boundary *Alluvium with organic inwash*	*4a*
3.16-3.165	-2.06 to -2.065	**316CM**		peat	2.5Y 2.5/1 black fibrous silty peat band, small recognisable plant remains, slightly humified *in situ peat formation, possible truncation*	*4b*
3.165-3.4+	-2.065 to 2.3	324cm **332CM**		alluvium	2.5Y 4/2 dark greyish brown (initially pale blue-grey, darkening on air contact) gleyed clay silt, fine (<0.5cm) and 1cm banding of clay silt and silty clay (but no flood couplets observed), occasional darker organic in-wash. 2cm fragment roundwood at 3.35-3.36m, concentration twigwood at 3.19-3.2m Alluvium @ 318cm twigwood taken for 14C dating, is in alluvium but just below fine peat band and likely local) @ 335cm roundwood taken for 14C dating, is in alluvium but would give minimum age for the recovered sequence) NB the excavators noted this unit continued for >1m below, to a depth greater than 4.5m. Water table/ ingress to 3.5m	*5*
From geotechnical logs (Ashdown Site Investigation Ltd) Borehole 2 (equivalent to Tr1), with descriptions based on 50cm blocks of sediment:						
6.0-7.5	*c.* -4.95 to -6.45	Medium dense black sandy (fine to coarse) gravel of flint with a little of cobbles of flint Alluvium (NB fluvial sands and gravels)				*8*
7.5-20.0	*c.* -6.45 to -18.95	Firm to stiff grey clay with a trace of fine to medium gravel of flint, becoming very stiff/ hard below 10.0m London Clay Formation				-

Summary of sedimentary sequence in Trench 2

0cm= 1.05m aOD						
Depth (m)	*mOD*	*Pollen and foram. samples*	*Bulk samples*	*Context and excavators description*	*Description*	Unit
0-0.75	+0 to +0.3			201 Modern made ground	*As Tr1* *Made ground*	*0*
0.75-1.6	+0.3 to -0.55			202 orange clay	*As Tr1* *Oxidised alluvium*	*1*
1.6-2.55	-0.55 to -1.5			203 Peat	*As Tr1 but no clearly visible layers of fine alluvium were observed interrupting the peat* *Humified edge/ fen peat*	*2*
2.55-5.5	-1.5 to -4.45			204 Blue clay	*As Tr1* *Alluvium*	*3-5*
5.5-5.75	-4.45 to -4.7		<11> *c.*5.5-5.7m	205 Sandy peat	Finely divided calcareous sandy silt peat, exceptionally well-preserved waterlogged plant macrofossils include very abundant mature wood (including oak, *Quercus* sp.) and twigwood, abundant molluscs. Whole tree trunks observed on surface of layer Peat (possible submerged woodland) **@ c.5.5-5.75m twigwood taken for 14C dating**	*6*
5.75-5.8	-4.7 to -4.75			-	Pale grey sandy silt Alluvium	
5.8-6.0	-4.75 to -4.95		<12> c. 5.8-6.0m	206 Gravel	Pale grey calcareous silt with 85% coarse sand and fine angular gravel, occasional sub-rounded clasts up to 4cm, abundant molluscs Fluvial sand and gravel	*8*
From geotechnical logs (Ashdown Site Investigation Ltd) Borehole 1 (equivalent to Tr2), with descriptions based on 50cm blocks of sediment:						
5.0-6.0	*c.*-3.9 to -4.9	*Dark brown/ black clayey sandy silt with wood fragments to 2mm and an organic odour* Alluvium				*Equivalent to unit 6-7? Tr2*
6.0-7.5	*c.* -4.9 to -6.4	Medium dense black sandy (fine to coarse) gravel of flint Alluvium (NB fluvial sands and gravels)				*Equivalent to unit 8 Tr2*
7.5-20.0	*c.* -6.4 to -18.9	Firm to stiff grey clay with a little fine to medium flint gravel, becoming very stiff/ hard below 9.0m London Clay Formation				-

*pollen only samples in bold underlined are samples assessed.



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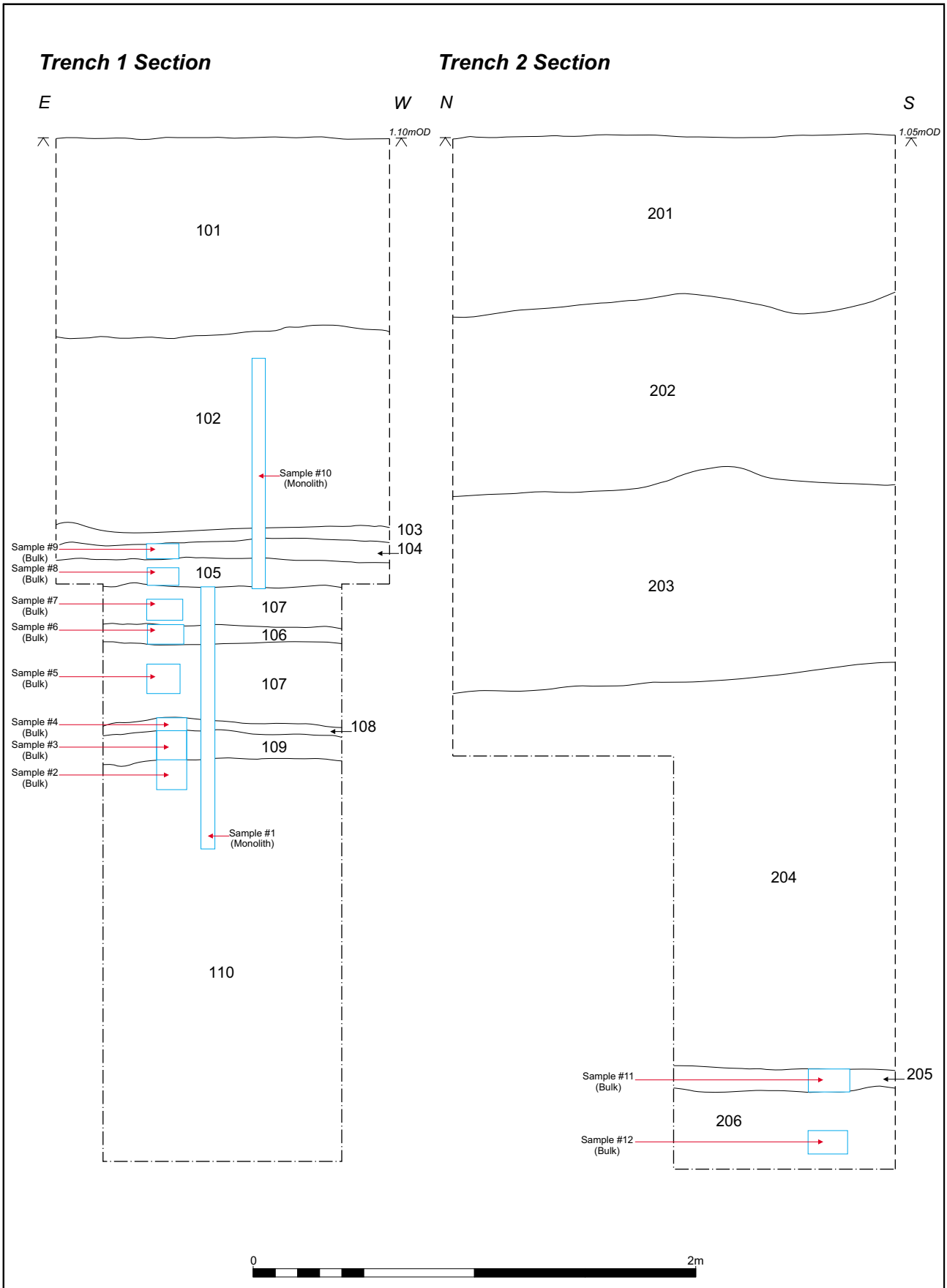
Site location plan showing position of trenches 1 & 2

Figure 1



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Section Drawings: Trenches 1 & 2

Figure 2