

# **Lanterns Court, Millharbour, London Borough of Tower Hamlets**

**An Archaeological Evaluation  
for CgMs Consulting**

by Andrew Weale

Thames Valley Archaeological Services Ltd

Site Code: LCU07

**December 2007**  
(updated May 2008)

## Summary

**Site name:** Lanterns Court, Millharbour, Tower Hamlets, London

**Grid reference:** TQ3760 7950

**Site activity:** Evaluation

**Date and duration of project:** 28th November -13th December 2007

**Project manager:** Steve Ford

**Site supervisor:** Andrew Weale

**Site code:** LCU07

**Area of site:** 1.1 ha

**Summary of results:** A modest range of artefacts certainly and probably of prehistoric date and a small pit were recorded beneath modern made ground and alluvium up to 4.5m deep. A shallow palaeochannel with peat deposits was also recorded truncating the natural sand. A subsequent environmental study has revealed a sedimentary and pollen sequence concurrent with nearby sites, indicating at the inception of the peat sequence dense lime woodland dominated the location, superseded by alder-carr woodland, and later the development of more open wetter conditions.

**Location and reference of archive:** The archive is presently held at Thames Valley Archaeological Services, Reading and will be deposited at The Museum of London in due course

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# Lanterns Court, Millharbour, London Borough of Tower Hamlets An Archaeological Evaluation

by Andrew Weale

Report 07/161

## Introduction

This report documents the results of an archaeological field evaluation carried out at Lanterns Court, Millharbour, Tower Hamlets, London (TQ3760 7950) (Fig. 1). The work was commissioned by Ms Lorraine Darton of CgMs Consulting, Morley House, 26 Holborn Viaduct, London EC1A 2AT.

It is proposed to redevelop the land at Lanterns Court, Millharbour, Tower Hamlets, London E14, for a residential scheme with basement car parking. As a part of the proposal an archaeological evaluation has been carried out.

This is in accordance with the Department of the Environment's Planning Policy Guidance, *Archaeology and Planning* (PPG16 1990), and the Borough Council policies on archaeology. The field investigation was carried out to a specification (Darton 2007) approved by Mr David Divers of the Greater London Archaeological Advisory Service (English Heritage). The fieldwork was undertaken by Andrew Weale, Illya Santos and Jason Stewart between 28th November and 13th December 2007 and the site code is LCU07. The archive is presently held at Thames Valley Archaeological Services, Reading and will be deposited at The Museum of London in due course (accession code LCU07).

A desk-top study for the site was researched by CgMs Consulting (Hawkins 2003). In summary, the site is thought to have a moderate to good potential for in-situ remains of the Neolithic and Bronze Age. This is particularly the case in the area of high gravel on the north west portion of the site, the location of which is indicated by geotechnical investigations. The site was also considered to have low to moderate potential for the Roman period.

The site has been in industrial use since the 1890s and redeveloped on a number of occasions. The site is thought to have received some bomb damage in the Second World War, was subsequently rebuilt, and is now in light industrial use having been last rebuilt in the 1980s.

## **Location, topography and geology**

The site is located to the north and east of Millwall docks and to the south of West India Docks on the Isle of Dogs, in a loop in the River Thames, in central London (Fig. 1). The site is centred on TQ 375 795 and is bounded to the north by a development site, to east and west by streets (Millharbour and Alpha Grove respectively), and to the south by terraced housing (Fig. 2). Currently the site is a mixture of light industrial units and brick paved access roads and parking bays, which are in the process of demolition. The site is generally flat with a height of approximately 4.00m above Ordnance Datum. The site is located on alluvium over the Lambeth Group (clay, silt and sand) (BGS 1981) which was observed in both trenches.

## **Archaeological background**

Until recently, few sites of any period have been recorded for the Isle of Dogs (MoLAS 2000). The apparent absence of sites was previously attributed to the area being flooded; alluvial deposits across the Isle of Dogs can reach up to 2m in thickness. Documentary evidence shows a series of land reclamations from the Saxon period onward. It was considered that any occupation in earlier times within the area of the Isle of Dogs would be concentrated on small areas of higher ground ('gravel islands'). Work at the Atlas Works site, c.500m to the south-west of the present site revealed a timber platform dated between 1890–1600 BC. The structure was located on the edge of a braided stream channel, and is thought to be associated with fishing, fowling or reed gathering as opposed to permanent settlement (MoLAS 2000). Closer to the site, recent excavation at Express Wharf on Westferry Road, 300m to the west revealed both prehistoric (Neolithic/Bronze Age) and Roman occupation on the edge of the river. The Roman site, which extended eastwards beyond the site boundary, was abandoned in the 3rd century AD, presumably as a result of rising sea levels and inundation (Anthony and Ford 2004). Similarly at Yabsley Street, Blackwall to the north east, Early Neolithic burial and occupation has been recorded (Coles et. al. in press) and beyond a later Neolithic trackway is recorded from Silvertown (Crockett et al 2002).

## **Objectives and methodology**

The purpose of the evaluation was to determine the presence/absence, extent, condition, character, quality and date of any archaeological deposits within the area of development.

The specific research aims of the project are:

to determine if archaeological relevant levels have survived on this site given that parts of the site have previously developed;

to determine if archaeological deposits of any period are present;

Two trenches were to be excavated 20m x 12m and 12m x 12m at the surface to allow for trenches to be 10.4m x 2.4m and 2.4mx2.4m across at a depth of 4.8m. The trenches were to be stepped in units of c. 1.2m units to allow for safe access and also with one side battered to allow for machine access. The trenches were to be excavated by a 360° tracked excavator with a 1.8m wide toothless grading bucket, under constant archaeological supervision. Overburden was to be removed in spits nominally of 0.2m. Both trenches were to be hand cleaned and all features sampled using appropriate hand tools. A metal detector was employed to assist in the recovery of metallic objects.

## **Results**

Both trenches were dug as intended though the location of Trench 2 was changed from that proposed in the brief after consultation between the project consultant (Lorraine Darton) David Divers (English Heritage).

A complete list of trenches giving lengths, breadths, depths and a description of sections and geology is given in Appendix 1.

### Trench 1 (Plate 1)

Trench 1 was 8m by 19m at the top (Fig. 3), a change from the scheme due to the presence of a live gas pipe along the southern edge of the trench. It was excavated in three steps. Modern block paving, modern footings and made ground were removed by mechanical excavator to a depth of 1.2m, a step in of 1.2m was left around the edge of the trench and another 1.2m of made ground was removed, a further step of 1.2m was left around the edge of the trench and further made ground and alluvium were removed to a depth of 3.38m when natural sand was encountered.

The observed stratigraphy comprised 2.71m of modern paving and made ground, loose sand and gravel with lens of brown and blue alluvium (70), which also filled recut 9 of ditch 8. Made ground/ fill (70) contained pottery, fragments of brick and tile and pieces of concrete. Recut 9 was linear in plan with irregular sides and base and appeared to be stabilization of ditch 8 before it was backfilled. Beneath this was Ditch 8.

Ditch 8 was aligned east north east - west south west across the bottom of Trench 1, and was 1.82m wide with a total depth of 1.5m (Fig. 4). Ditch 8 was filled with a series of clays (65, 66, 73, 74 and 64). Beneath recut

9 in the northern section was fill 65, greyish brown sandy clay, up 0.33m thick and contained no artefacts. Beneath fill 65 was fill 66, greyish brown clay, up to 0.28m thick which contained no artefacts. Beneath fill 66 was fill 64. Beneath recut 9 in the south was fill 73 mid brown sandy clay, up to 0.23m thick which contained no artefacts. Beneath fill 73 was fill 74, dark brown sandy clay up to 0.30m thick, which contained no artefacts. Beneath fill 74 was fill 64, dark bluish grey clay with organic remains and large pieces of chalk. Fill 64 contained worked limestone blocks, bone, slate, ceramic building materials and a metal object. Ditch 8 appears to be the remains of a ditch shown on the First Edition OS map of the area (Fig. 6).

Ditch 8 cut through a sequence of alluvial deposits (69, 71–3) in total 1.17m thick, all extending across the trench (Fig. 5). Deposit 71 was a dark bluish grey clay with a high organic content, up to 0.55m thick. Beneath 71, deposit 69 was bluish brown clay with occasional organic remains up to 0.21m thick. Beneath this was greyish brown sandy clay (72) with occasional fragments of chalk, up to 0.09m thick. Deposit 72 overlies dark brownish grey sandy clay (75) up to 0.33m thick, with occasional organic remains. This sequence appeared to be naturally deposited, and a column sample was taken through the sequence for future reference. No artefacts were recovered from this sequence. Beneath deposit 75 was pit 7

Pit 7 was cut into natural sand, was sub-rectangular in plan with a rounded end, 1.90m long, 1.20m wide and 0.08m deep and extended under the bottom step of Trench 1 to the south-west (Figs 4, 5). Pit 7 was fully excavated within the trench. No artefacts were recovered from its fill (62), greenish grey sand with gravel.

A small hand dug sondage was excavated into the top of the natural sand to a depth of 0.50m with no change to the natural observed.

#### Trench 2 (Plate 2)

Trench 2 was 14m by 10m at the top (Fig. 3). Modern building foundation slab and made ground were removed to a depth of 1.2m, and the trench was stepped as above, removing another 1.2m of made ground, 1.2m of made ground and alluvium and further alluvium to a depth of 4.0m when a peat layer was encountered, this was removed by machine and hand.

The observed stratigraphy comprised 0.35m of concrete foundation slab and 3.67m of made ground (76), loose sand and gravel with lens of brown and blue alluvium, very similar to made ground (70) in trench 1. No artefacts were recovered from (76). Beneath this was a sequence of alluvial deposits 81 and 82 extending across the trench. A palynological assessment of the alluvium and peat deposits was undertaken (Appendix 3), from a column sample with a top level of 0.66m AOD and bottom level of -0.22m BOD.

Alluvial deposit 81 was greyish yellow clay with occasional gravel up to 0.71m thick (Fig.5), above deposit 82 which was a maximum of 0.08m thick and was bluish grey clay with occasional organic remains. The alluvium in context 81 produced pollen dominated by grasses and sedges suggesting a continuation of wet, open conditions. The pollen assemblage in context 82 indicates an expansion of wet, open conditions and a reduction in alder-carr woodland from earlier periods. The alluvial deposits dipped down in the northern part of the trench. No artefacts were recovered from this sequence. Beneath deposit 82 was a layer of peat, 79.

Peat layer 79 was dry and compressed, a maximum of 0.22m thick, thinning in the northern 1m to just 0.03m thick. The top 0.15m of peat was removed by machine with the lower 0.07m removed by hand. No artefacts were recovered from peat 79; this sealed channel 10, which covered the whole of the base of Trench 2. The environmental assessment of the compacted peat 79 indicates a shift from Lime to Alder with an increase in grasses and one cereal pollen grain, suggesting the development of wet alder-carr woodland and opening of the woodland canopy. The channel shallowly dipped from south to north with an increase of slope towards the northern edge of the trench (Fig. 4). Channel 10 was filled with deposit 80 a maximum of 0.11m thick, which was mid grey sand with moderate organic material (roots and twigs), and contained burnt flint, a large animal tooth and a piece of worked flint. Deposit 80 was cleaned by hand and a hand dug sondage was excavated through it, showing that it thinned to a depth of 0.05m towards the northern edge of the trench. The base of this peat deposit contained a pollen assemblage indicating dense lime woodland with Alder colonising wetter areas, and ferns and brackens in the undertstorey.

Beneath channel 10 was natural sand 69 which undulated across the base of the trench. A column sample was taken from the natural sand through channel 10 into the base of alluvial deposit 81.

## **Finds**

### *Struck Flint* by Steve Ford

A single struck flint was recovered from the palaeochannel deposit (10, 80) in trench 2. The piece was a broken flake but with several small areas of possible retouch. It was in a fresh condition with a small area of cortex remaining. It is not closely datable but is likely to be of Neolithic or Bronze Age date.

### *Burnt Flint* by Andrew Weale

Twenty-four pieces of burnt flint with a total weight of 287g were recovered from the palaeochannel (10, 80) in trench 2. None of the pieces showed evidence of working.

### *Ceramic Building Material* by Andrew Weale

A total of nine pieces of with a total weight of 826g were recovered from two contexts. Two pieces of tile and one of brick (731g in total) were recovered from made ground 70 in Trench 1. Six pieces of brick and tile (95g) were recovered from modern ditch 8 (64) (not retained).

### *Bone* by Andrew Weale

A total of four pieces of bone and one tooth with a total weight of 103g were recovered from two contexts. Four pieces of badly crushed bone with a total weight of 64g were recovered from modern ditch 8 (64) in Trench 1 (not retained). A tooth (39g) was recovered from palaeochannel deposit (10, 80) in trench 2. The tooth was in poor condition, but has the appearance of being bovine.

### *Pottery* by Andrew Weale

One sherd (23g) of blue and white transfer-decorated (modern) pottery was recovered from made ground 70 in Trench 1 (not retained).

### *Metal* by Andrew Weale

Two pieces of a single iron object, with a total weight of 133g were recovered from modern ditch 8 (64) in Trench 1. The object is a flat cast plate with four rounded holes in a square formation cut though it (not retained).

### *Worked Stone* by Andrew Weale

One piece of roofing slate with a weight of 141g and two pieces of worked limestone with a total weight of 1529g were recovered from modern ditch 8 (64) in Trench 1 (not retained).

## **Conclusion**

The evaluation has characterised the archaeological potential of the site and revealed a modest range of finds and deposits of prehistoric date.

The natural geology of the site is covered by up to 4.20m of made ground and alluvium. In the area of Trench 1, a large modern ditch that was backfilled after 1875 cuts through a substantial amount of the alluvium



and natural sand beneath. One pre-modern feature survives in this area, a shallow pit (7) which extended beyond the trench boundary. The pit could not be closely dated as it contained no artefactual evidence, but was sealed by the alluvial layers which from evidence elsewhere on the Isle of Dogs, especially the Express Wharf Site to the west (with a basal level of 0.67m-1.1m AOD) are at least of Roman date (Anthony and Ford 2004, 7).

In Trench 2 beneath the alluvial deposits, the remains of a shallow palaeochannel (10) were observed, cutting into the natural sands beneath, which were deeper than those in Trench 1. This channel extended across the whole of the base of Trench 2, deepening to the north. This channel was filled with a deposit which contained organic remains, together with a piece of struck flint of Neolithic or Bronze Age date, a quantity of burnt flint as well as a bovine tooth. This channel was sealed by a layer of peat, which in turn was sealed by the alluvial deposits above. This would suggest that the palaeochannel cut through the north-western corner of the site, with higher, drier land to the south and east of it. The top of the natural sand at the site was recorded between c.-0.35m AOD and -0.39m BOD which can be compared with natural gravel between 0.1m AOD and -1.2m BOD on the Guardian Press Centre site c. 150m to the north (Batchelor et al 2007) and gravel at 0.5m AOD on the Atlas Wharf site adjacent to the present River c. 500m west of the site (Lakin 1998).

Comparison of the environmental sequence with nearby sites has indicated what appears to be a similar sequence of environmental change. In particular at the Guardian Press Centre site (Batchelor et al 2007) pile pit 6 recorded natural gravel and sand at -0.25m OD overlain by humic soil at -0.1m OD dating to the Neolithic and containing high values of lime pollen. This was overlain by sandy peat at 0m OD with a decrease in lime pollen and increase in alder dating to the Neolithic/Bronze Age transition, overlain by a humic mud dating to the late Bronze Age at 0.1m AOD containing the highest percentage of Alder pollen and representing wet alder carr woodland. In turn this was overlain by alluvium dating between the Iron Age/historic periods at 0.6-0.8m AOD representing mudflats. By comparing that detailed sequence with the data from the Lanterns Court evaluation and pollen assessment, it is possible to suggest that the Lanterns Court channel is likely to date to the late Neolithic/Bronze Age, and the overlying alluvium to the later Bronze Age through to the historic periods.

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## APPENDIX 1: Trench details

0m at west end

Trench	Length (m)	Breadth (m)	Depth (m)	Comment
1	19m 7m base	8m 1.8m base	3.38m	0.0–2.28 (or as deep as 2.71m) modern paving and made ground, (70); 2.28–2.88m dark bluish grey clay (71); 2.88–3.03m bluish brown clay (69); 3.03–3.28m greyish brown sandy clay (72); 3.28–3.38m dark brownish grey sandy clay. Natural sand at 0.92m above OD. Ditch 8, recut 9, pit 7 <b>[Plates 1 and 3]</b>
2	14m 3m base	10m 1.8m base	4.58m	0.0–0.35m of concrete foundation slab; 0.35–3.67m made ground (76); 3.67–4.44m greyish yellow clay with occasional gravel (81); 4.44–4.52m bluish grey clay with occasional organic remains (81); 4.52m–4.58m peat (79); channel 10. Natural sand at 0.24 below OD <b>[Plates 2 and 4]</b>

**APPENDIX 2: Feature details**

<i>Trench</i>	<i>Cut</i>	<i>Fill (s)</i>	<i>Type</i>	<i>Date</i>	<i>Dating evidence</i>
1	9	70	Recut	Modern	Map
1	8	64, 65, 66, 73, 74	Ditch	Modern	Map, Pottery
1		71	Layer	Post Bronze Age	Stratigraphy
1		69	Layer	Post Bronze Age	Stratigraphy
1		72	Layer	Post Bronze Age	Stratigraphy
1		75	Layer	Post Bronze Age	Stratigraphy
1	7	62	Pit	Prehistoric?	Stratigraphy
2		76	Layer	Modern	Stratigraphy
2		81	Layer	Post Bronze Age	Stratigraphy
2		82	Layer	Post Bronze Age	Stratigraphy
2		79	Layer	Post Bronze Age	Stratigraphy
2	10	80	Channel	Neolithic or Bronze Age	Struck flint, Burnt Flint

## APPENDIX 3: Palynological Assessment

By Karen Wicks

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### Introduction

This report provides an assessment of the preservation and frequency of sub-fossil pollen and spores recovered from alluvium and peat deposits at Lanterns Court, Millharbour, Tower Hamlets, London. An assessment of these parameters provides the opportunity to evaluate the palynological potential for vegetation reconstruction and to identify any evidence for human activity and land use.

The work was commissioned by Thames Valley Archaeological Services on behalf of CgMs Consulting, and constitutes one aspect of an archaeological evaluation of the Tower Hamlets site, in accordance with the Department of the Environment's Planning Policy Guidance (PPG16 1990) and local council policies on land redevelopment.

### Sample details

One column sequence (LCU07 Column 1) was obtained from Section 5, Trench 2 and submitted for palynological assessment. The sequence, totalling 45 cm in depth, comprised a range of sediments including alluvium, peat, minerogenic peat and palaeochannel deposits, as tabulated below:

Depth	Context	Sediment Description
<b>0.0-8.5 cm</b>	81	Dark grey alluvial clay with yellowish brown mottling
<b>8.5-14.0 cm</b>	82	Very dark grey alluvial clay with occasional organic remains
<b>14.0-18.0 cm</b>	79	Compacted peat
<b>18.0-22.0 cm</b>	79	Compacted sandy peat
<b>22.0-35.0 cm</b>	79	Compacted peat
<b>35.0-40.5 cm</b>	80	Very dark grey medium sand with occasional rootlets (Channel 10)
<b>40.5-45.0 cm</b>	80	Greyish brown medium sand with yellowish brown mottling (Channel 10)

Table 1. Description of sediments from LCU07 Column 1

Two pollen sub-samples were collected from alluvial deposits overlying the compacted peat. Peat deposits usually hold the greatest potential for pollen preservation so five sub-samples from the top, middle and base of the peat unit were taken. One sub-sample from the basal sands was also obtained for comparative purposes only, as such deposits rarely contain palynological material.

Figure 1 shows the stratigraphy of LCU07 Column 1, along with the position of the pollen sub-samples.

The depths at which the sub-samples were collected are provided in Table 2.

Pollen Sample	Depth	Context	Sediment Description
1	4-5 cm	81	Dark grey alluvial clay with yellowish brown mottling
2	10-11 cm	82	Very dark grey alluvial clay with occasional organic remains
3	17-18 cm	79	Top of compacted peat
4	20-21 cm	79	Compacted sandy peat
5	25-26 cm	79	Compacted peat
6	30-31 cm	79	Compacted peat
7	34-35 cm	79	Base of compacted peat
8	38-39 cm	80	Very dark grey medium sand with occasional rootlets (Channel 10)

Table 2. LCU07 pollen sub-sample depths



Figure A1. Photo showing LCU07 Column 1 stratigraphy and position of pollen sub-samples. (Note: Label LCU07 Col 3 [6] = LCU07 Column 1)

## Methods

Sub-samples of sediment 1 cm<sup>3</sup> in volume were processed for pollen analysis. Samples were chemically prepared using standard laboratory preparation techniques as outlined in Moore *et al* (1991). Treatments included HCl, NaOH, sieving, HF (overnight) and acetolysis to remove carbonates, particles >180 µm, silicates and cellulose, respectively. Samples were stained with 0.2% safranin and mounted in Kaisers glycerol jelly. Tablets containing *Lycopodium* spores were added to a known volume of sediment, enabling calculation of pollen concentrations. Samples were analysed under a Leica DME trinocular microscope at x400 magnification, with critical determinations observed under an oil-immersion lens at x1000 magnification and phase contrast. A minimum of 100 pollen grains and spores were identified per sample, excluding aquatics and *Sphagnum*. Pollen

and spores were identified using the key and photographic plates in Moore *et al.* (1991), and by comparison with a pollen reference collection in the School of Human & Environmental Sciences, University of Reading. Identification of cereal pollen followed the criteria of Andersen (1979). All taxa follow current nomenclature established in Bennett *et al.* (1994). Indeterminable grains were recorded according to Cushing (1967) as corroded, degraded, crumpled or broken.

## Results and discussion

The results of the pollen assessment are presented in Table 3. All pollen frequencies are expressed as a percentage of the total sum of terrestrial pollen, excluding aquatics and spores. Aquatic pollen and spore frequencies are expressed as percentages of the total sum of terrestrial pollen plus aquatics, and the total sum of terrestrial pollen plus spores, respectively.

LCU07 Column 1									
Context		81	82	79	79	79	79	79	80
Pollen Taxa ↓	Depth →	4-5 cm	10-11 cm	17-18 cm	20-21 cm	25-26 cm	30-31 cm	34-35 cm	38-39 cm
<i>Pinus sylvestris</i>		4	3	2	(0)	0	+	+	0
<i>Ulmus</i>		0	0	0	(1)	0	0	0	0
<i>Quercus</i>		3	3	5	(0)	10	+	+	0
<i>Betula</i>		+	2	+	(0)	0	5	4	0
<i>Alnus glutinosa</i>		7	27	54	(3)	34	47	27	0
<i>Tilia</i>		+	0	0	(3)	10	7	49	0
<i>Corylus avellana</i> -type		7	5	0	(1)	3	9	12	0
<i>Salix</i>		3	0	0	(0)	0	0	0	0
Poaceae		33	26	25	(10)	21	24	+	0
Cereals		0	0	0	(0)	0	+	0	0
Cyperaceae		23	20	9	(0)	10	2	+	0
<i>Ranunculus</i> -type		0	2	0	(0)	+	0	0	0
Chenopodiaceae		4	5	0	(0)	0	0	0	0
Caryophyllaceae		4	+	+	(0)	0	+	0	0
Brassicaceae		0	+	0	(0)	0	0	0	0
Rosaceae		0	+	0	(0)	0	0	0	0
<i>Filipendula ulmaria</i>		+	+	0	(0)	3	+	0	0
Apiaceae		3	+	0	(0)	+	0	0	0
<i>Plantago lanceolata</i>		0	+	0	(0)	+	0	0	0
<i>Taraxacum</i> -type		4	+	+	(1)	3	0	+	0
<i>Aster</i> -type		4	+	0	(0)	0	0	0	0
<i>Artemisia</i> -type		0	0	0	(0)	3	0	0	0
Pteropsida (monolete) undiff.		13	7	8	(0)	6	8	21	0
<i>Polypodium</i>		0	0	0	(1)	3	+	+	0
<i>Pteridium aquilinum</i>		2	4	+	(21)	20	11	12	0
<i>Sphagnum</i> moss		0	+	0	(0)	0	0	0	0
<i>Typha latifolia</i> -type		+	0	0	(0)	0	0	0	0
<i>Pediastrum</i>		+	+	0	(0)	0	0	0	0
Total indeterminables		31	46	35	66	45	21	44	0

Numbers in brackets refer to actual number of pollen grains counted where a full count was not achieved.  
+ denotes < 2% (rare taxa).

Table 3. Results of palynological assessment of Lanterns Court, Mill Harbour, Tower Hamlets, (LCU07).

Frequencies of palynomorphs (pollen, spores and their allies) were consistently high in the alluvium (contexts 81 and 82; column depths 4-5 cm and 10-11 cm) and top of the peat sequence (context 79; column depth 17-18 cm)

enabling full assessment counts to be achieved within 10-20 slide transects traversed at 1 mm intervals. Palynomorph frequencies decreased significantly in the peat sequence at 20-21 cm due to an increase of medium sand grains at this level. As a result, it was not possible to obtain a count of 100 land pollen grains and spores from a single pollen slide (i.e. x 40 slide transects traversed at 1 mm intervals). Below this level, frequencies of palynomorphs increased to moderate levels in the compacted peat at 25-26 cm, 30-31 cm and 34-35 cm enabling full assessment counts to be obtained from 30-40 slide transects traversed at 1 mm intervals. Palynomorphs were absent in the medium sand of Channel 10 (context 80; column depth 38-39 cm).

Pollen preservation was generally moderate to good in all of the alluvium and peat samples, with the exception of the sandy peat at 20-21 cm (context 79), where preservation was poor.

The base of the peat sequence (context 79) at 34-35 cm produced a pollen assemblage dominated by arboreal taxa. Frequencies of *Tilia* (lime) pollen are at their highest at this level at 49%, which is of particular palynological interest as *Tilia* is insect-pollinated and is often under-represented in the palaeoenvironmental record. *Alnus glutinosa* (alder) pollen is also a significant component of the assemblage at 27%, whilst *Corylus avellana*-type (hazel) and *Betula* (birch) represent lesser proportions at 12% and 4%, respectively. The high frequency of *Tilia* suggests that dense, lime woodland occurred in this area, with *Alnus glutinosa* probably colonising wetter areas. Frequencies of Pteropsida (ferns) (21%) and *Pteridium aquilinum* (bracken) (12%) spores suggest that the woodland understorey was possibly dominated by these plant types.

High frequencies of arboreal pollen continue throughout the peat sequence but a shift in dominant species occurs at 30-31 cm from *Tilia* (7%) to *Alnus glutinosa* (47%). This is concomitant with an increase in Poaceae (grasses) (24%) perhaps indicating a change in hydrological conditions resulting in the development of wet alder-carr woodland and an opening up of the woodland canopy. A single grain of cereal pollen was recorded at this level.

Preservation of palynomorphs is poor in the sandy peat horizon (20-21 cm), as reflected in the high value for indeterminate palynomorphs (66%). This may be a result of a change in intertidal processes resulting in periodic inundation of the peat along with minerogenic in-wash, which probably subjected the peat to erosion, possibly reducing its thickness.

Peat accumulation continues above the sandy peat horizon with a return to carr woodland with stands of oak on dryer ground. The presence of bracken ferns (*Pteridium aquilinum*), and high frequencies of grasses perhaps suggests the presence of woodland glades.



A decrease in *Alnus glutinosa* (alder) frequency occurs in the alluvium at 10-11 cm (context 82), dropping from 54% at the top of the peat sequence to 27 % in the alluvium (context 82). This is coincident with an increase in Cyperaceae (sedges) pollen from 9% at the top of the peat to 20% in context 82, possibly indicating an expansion of wet, open conditions and a reduction in alder-carr woodland.

The alluvium at 4-5 cm (context 81) produced an assemblage dominated by Poaceae (grasses) and Cyperaceae (sedges) suggesting a continuation of wet, open conditions. Arboreal pollen frequencies are low although *Alnus glutinosa* (alder) probably remained as localised stands in the wetter areas, with *Corylus avellana*-type (hazel) and *Pteridium aquilinum* (bracken) perhaps colonising drier ground.

Microcharcoal was recorded in both alluvium samples. However, there is no indication in the pollen record as to whether this burning was anthropogenically or naturally induced.

## Conclusions

It must be emphasised that the results of the pollen assessment described here do not represent a full palynological analysis of the Lanterns Court sedimentary sequence. The total land pollen count in an assessment of this kind is small and a greater range of plant taxa will always be encountered during full analysis. As such, any interpretations are given tentatively and are subject to change should a full analysis be undertaken. However, the indications provided by the assessment fall into a pattern established by other analyses carried out in the immediate environs of the site on Westferry Road (but not at Express Wharf where very low pollen frequencies were recorded (Anthony and Ford 2004, 2) and in more distant locations to the east in Poplar and Blackwall, and south (across the Thames) in Greenwich. (Batchelor *et al.* 2007; Branch *et al.* 2006; Branch *et al.* 2005; Keith-Lucas in press). It is expected that full analysis would reproduce these broadly similar results for this chronological and geographical location.

Assessment of LCU07 column 1 has found pollen to be preserved throughout the sequence, with the exception of the basal minerogenic sediments. Pollen frequencies are high and preservation is generally good, with the exception of the sandy peat horizon in context 79.

Initial findings are that during inception and formation of the peat sequence, dense lime woodland dominated the location, which was subsequently superseded by alder-carr woodland and the development of more open, wetter conditions. Possible evidence of cereal cultivation coincided with the opening up of the woodland. A reduction in alder-carr woodland is recorded in the alluvial deposits, coincident with an expansion of wet, open conditions.

## **Appendix 4 OASIS form**

# OASIS DATA COLLECTION FORM: England

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## Printable version

**OASIS ID: thamesva1-36114**

### Project details

Project name	Lanterns Court, Millharbour, London Borough of Tower Hamlets
Short description of the project	Evaluation trenching revealed a modest range of artefacts certainly or probably of prehistoric date, and a small pit, all sealed below modern made ground and alluvium up to 4.5m deep. A shallow palaeochannel with peat deposits was also recorded truncating the natural sand. Pollen and sediment analysis shows a relative sequence similar to nearby sites (although here undated) indicating that at the inception of the peat sequence, dense lime woodland dominated, superseded by alder-carr woodland, and later the development of more open, wetter conditions.
Project dates	Start: 28-11-2007 End: 13-12-2007
Previous/future work	No / Yes
Any associated project reference codes	LCU07 - Sitecode
Any associated project reference codes	LCU07 - Museum accession ID
Type of project	Field evaluation
Site status	None
Methods & techniques	'Environmental Sampling','Sample Trenches'
Development type	Urban residential (e.g. flats, houses, etc.)
Prompt	Direction from Local Planning Authority - PPG16
Position in the planning process	Pre-application

### Project location

Country	England
Site location	GREATER LONDON TOWER HAMLETS POPLAR Lanterns Court, Millharbour
Study area	1.10 Hectares
Site coordinates	TQ 3760 7950 51.4971685583 -0.01749746483440 51 29 49 N 000 01 02 W Point
Height OD	Min: 0.24m Max: 0.92m

**Project creators**

Name of Organisation	Thames Valley Archaeological Services
Project brief originator	Consultant
Project design originator	CgMs Consulting
Project director/manager	Steve Ford
Project supervisor	Andrew Weale
Type of sponsor/funding body	Consultant
Name of sponsor/funding body	CgMs

**Project archives**

Physical Archive recipient	Museum of London
Physical Archive ID	LCU07
Physical Contents	'Animal Bones','Environmental','Worked stone/lithics'
Physical Archive notes	temporarily with TVAS in Reading pending deposition
Digital Archive Exists?	No
Paper Archive recipient	Museum of London
Paper Archive ID	LCU07
Paper Contents	'Animal Bones','Environmental','Stratigraphic','Survey','Worked stone/lithics'
Paper Media available	'Context sheet','Correspondence','Drawing','Manuscript','Matrices','Microfilm','Miscellaneous Material','Photograph','Plan','Report','Section','Survey'

Paper Archive temporarily with TVAS in Reading pending deposition notes

**Project bibliography 1**

Publication type Grey literature (unpublished document/manuscript)

Title Lanterns Court, Millharbour, London Borough of Tower Hamlets; an archaeological evaluation

Author(s)/Editor(s) Weale, A

Other bibliographic details 07/161

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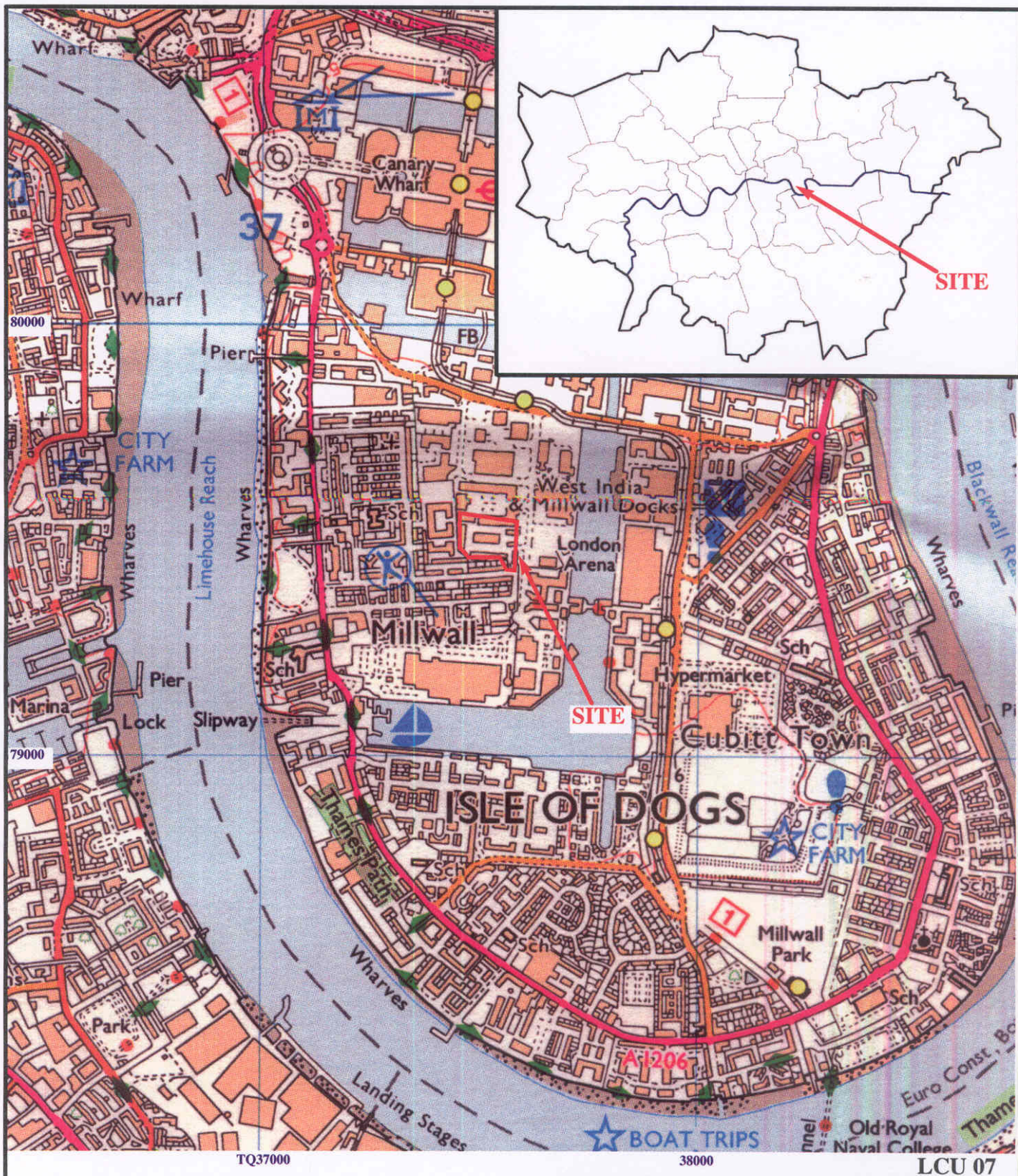
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## OASIS:

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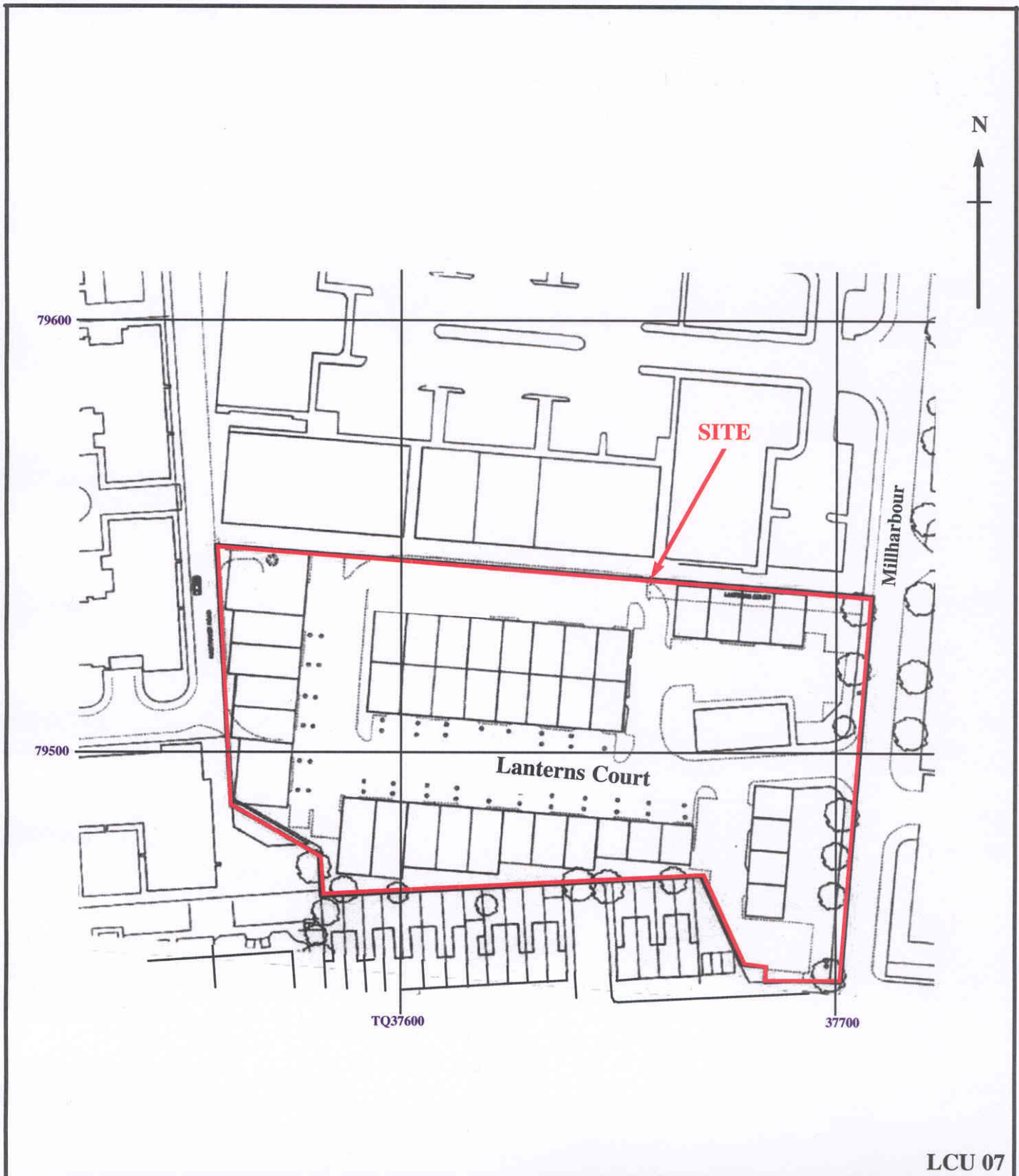


**Lanterns Court, Millharbour, Isle of Dogs,  
London Borough of Tower Hamlets, 2007  
Archaeological Evaluation**

Figure 1. Location of site within Millwall and Greater London.

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**ARCHAEOLOGICAL**  
 S E R V I C E S



LCU 07

**Lanterns Court, Millharbour, Isle of Dogs,  
London Borough Of Tower Hamlets, 2007  
Archaeological Evaluation**

Figure 2. Detailed location of site.

Scale 1:1250

T H A M E S   V A L L E Y  
**ARCHAEOLOGICAL**  
 S E R V I C E S

# Lanterns Court, Millharbour, Isle of Dogs, London Borough of Tower Hamlets, 2007

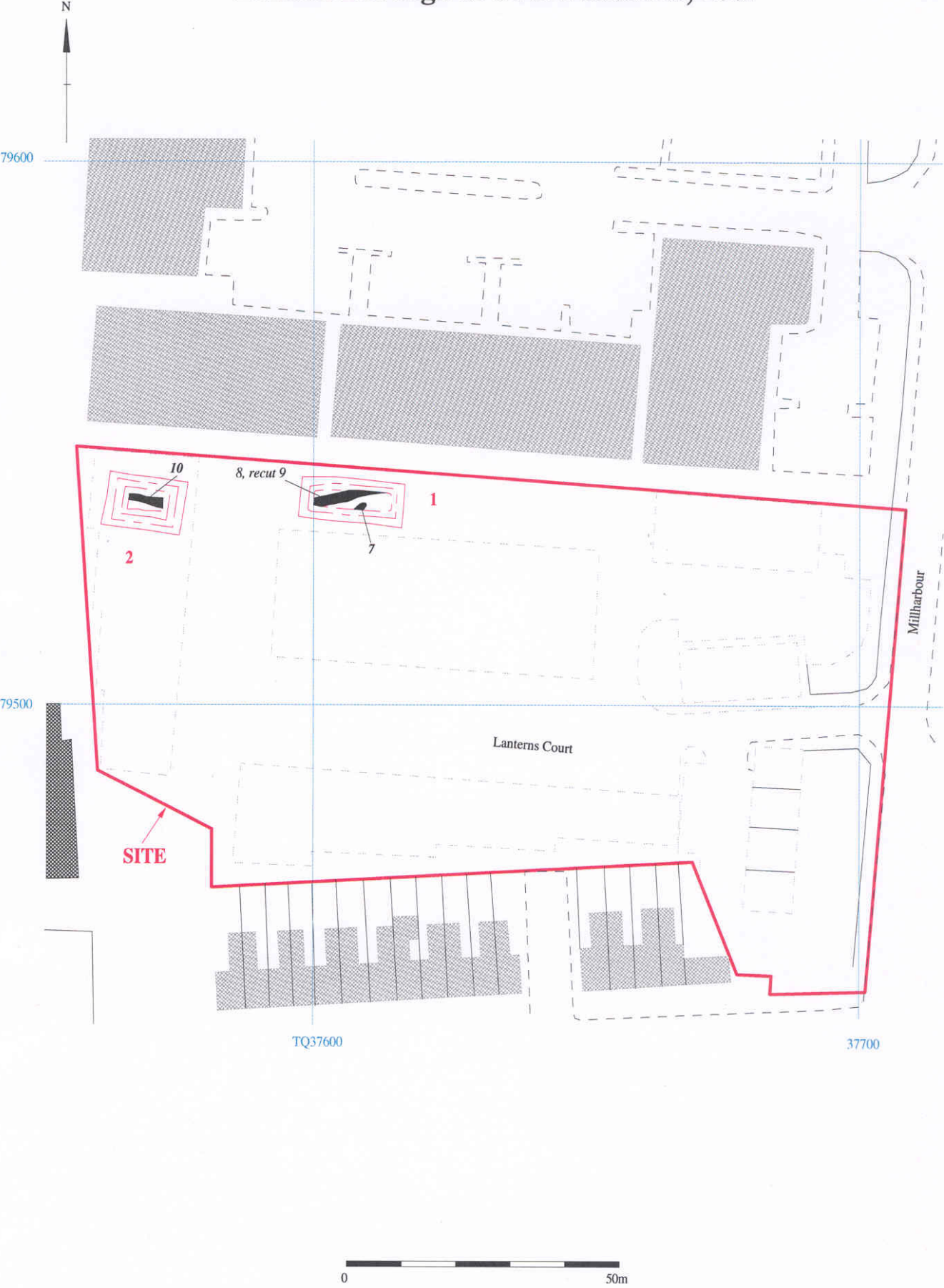


Figure 3. Detail of trenches.



# Lanterns Court, Millharbour, Isle of Dogs, London Borough of Tower Hamlets, 2007

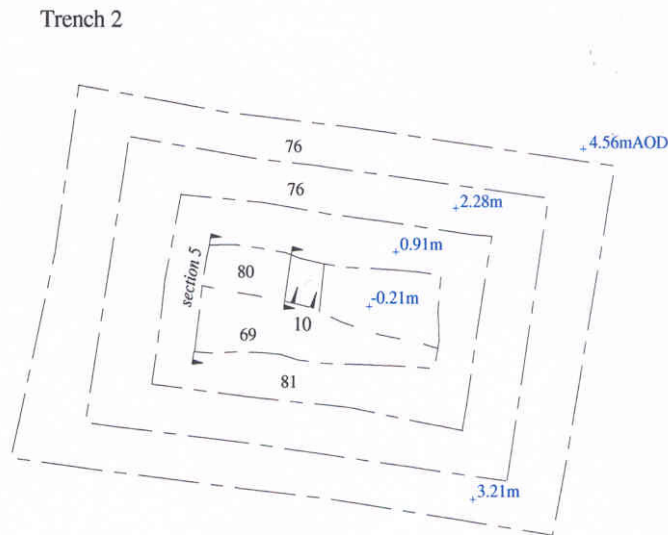
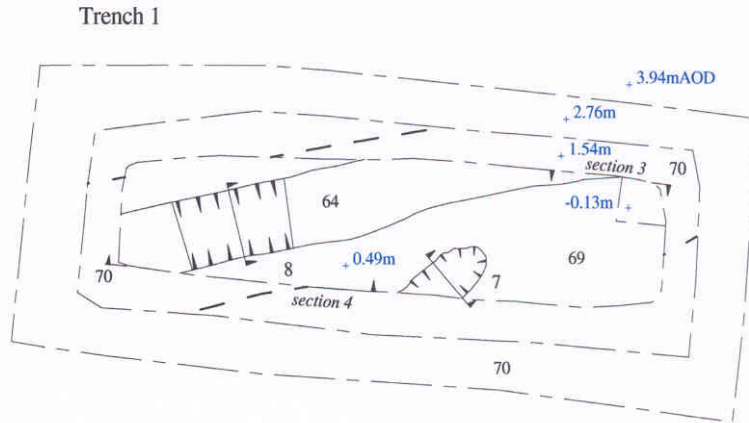


Figure 4. Detail of trenches.

# Lanterns Court, Millharbour, Isle of Dogs, London Borough of Tower Hamlets, 2007

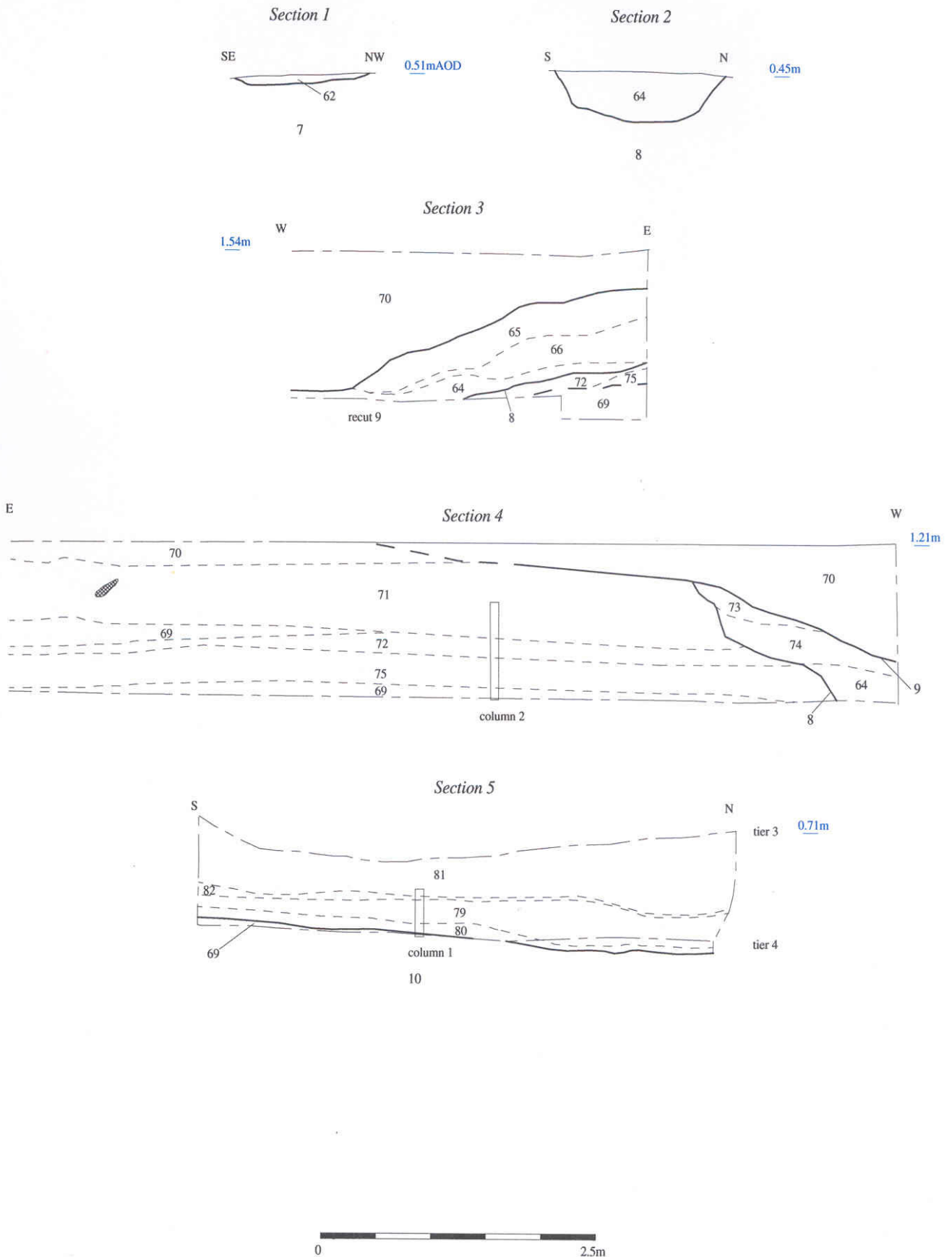
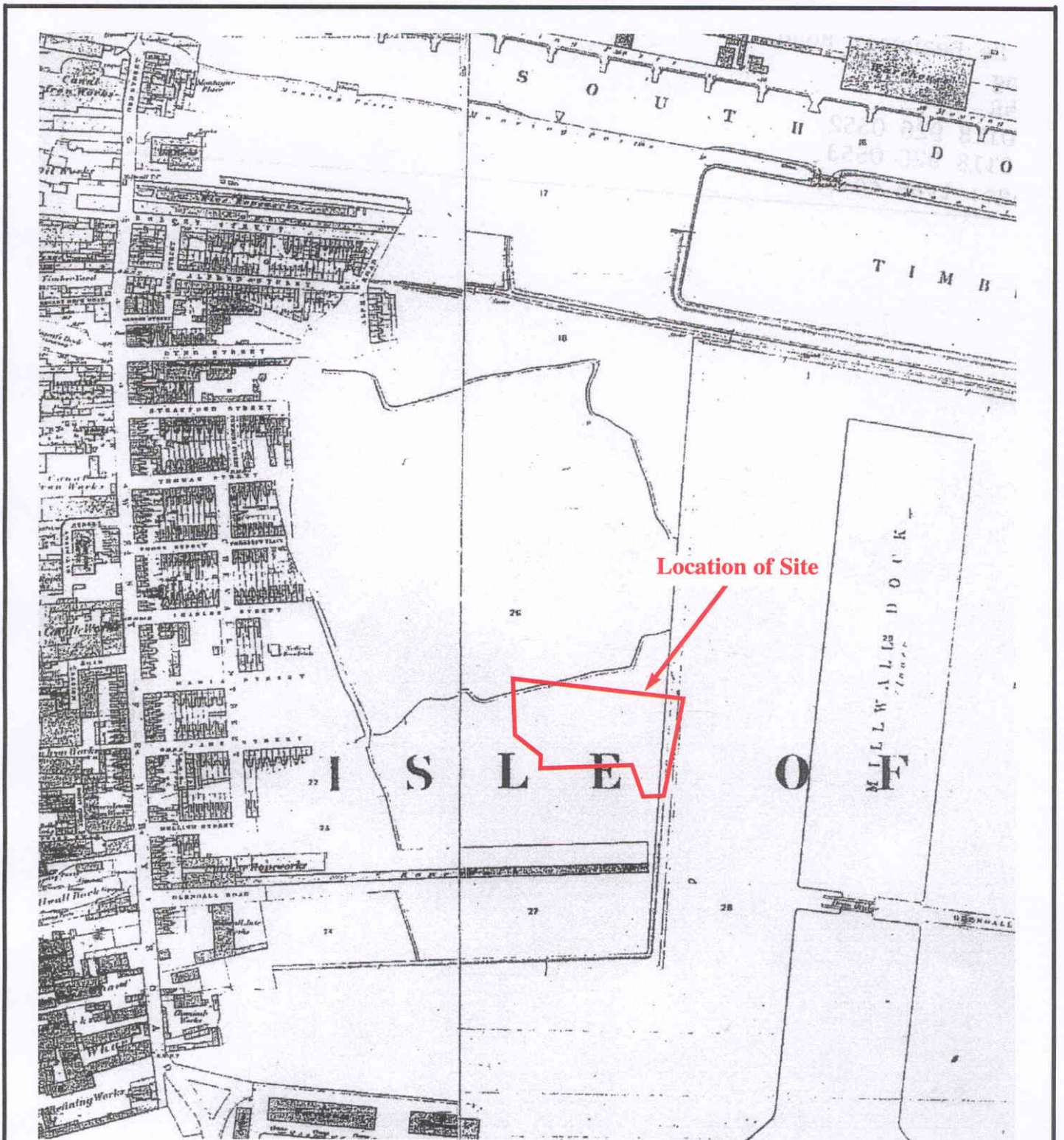


Figure 5. Sections



LCU 07

**Lanterns Court, Millharbour, Isle of Dogs,  
London Borough of Tower Hamlets, 2007.  
Archaeological evaluation**

Figure 6. Location of the site on 1st edition  
Ordnance Survey, 1869 - 75.

T H A M E S   V A L L E Y

ARCHAEOLOGICAL

S E R V I C E S



Plate 1. Base of Trench 1, ditch 8, looking east, scales 2m and 1m.



Plate 2. Base of Trench 2, channel 10, looking west, horizontal scale 2m and 1m, vertical scales 2m and 1m.

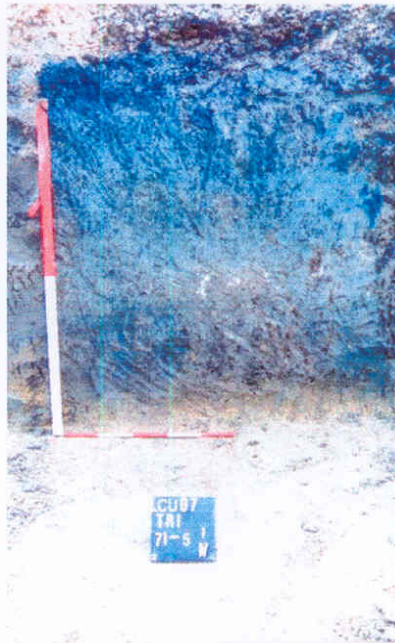


Plate 3. Trench 1, alluvium layers 71, 72, and 75 (column 2), looking south southeast, scales 1m and 0.5m.

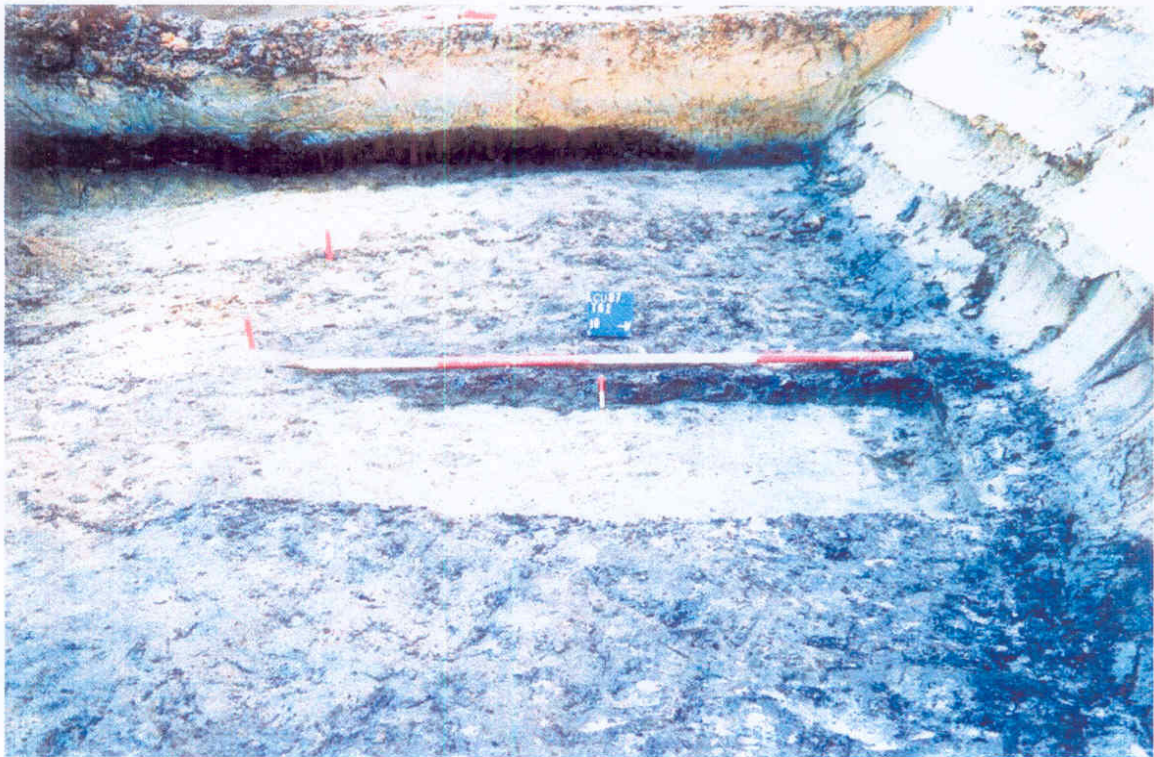


Plate 4. Trench 2, base of channel 10, looking west, scales 2m and 0.1m.