

Archaeological Services & Consultancy Ltd

**ARCHAEOLOGICAL EVALUATION:
46-51 GILLENDER STREET
TOWER HAMLETS
LONDON**

NGR: TQ 38200 81850

on behalf of Adam Deal



Martin Cuthbert BA (Hons) PIFA

August 2009

ASC: 1162/THG/2/R



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Site Data

<i>ASC site code:</i>	THG	<i>Project no:</i>	1162
<i>OASIS ref:</i>	Archaeol2-58190	<i>Accession no:</i>	GIK09
<i>County:</i>	Greater London		
<i>Village/Town:</i>	Poplar		
<i>Civil Parish:</i>	Poplar		
<i>NGR (to 8 figs):</i>	TQ 38200 81850		
<i>Extent of site:</i>	c.523 sq. m		
<i>Present use:</i>	Residential and commercial units		
<i>Planning proposal:</i>	Erection of new residential and commercial units		
<i>Planning application ref/date:</i>	PA/05/01723		
<i>Local Planning Authority:</i>	London Borough of Tower Hamlets		
<i>Date of fieldwork:</i>	April 2009		
<i>Client:</i>	Mr Adam Deal 21 Rowanwood Avenue Sidcup Kent DA15 8WL		
<i>Contact name:</i>	Adam Deal		

Internal Quality Check

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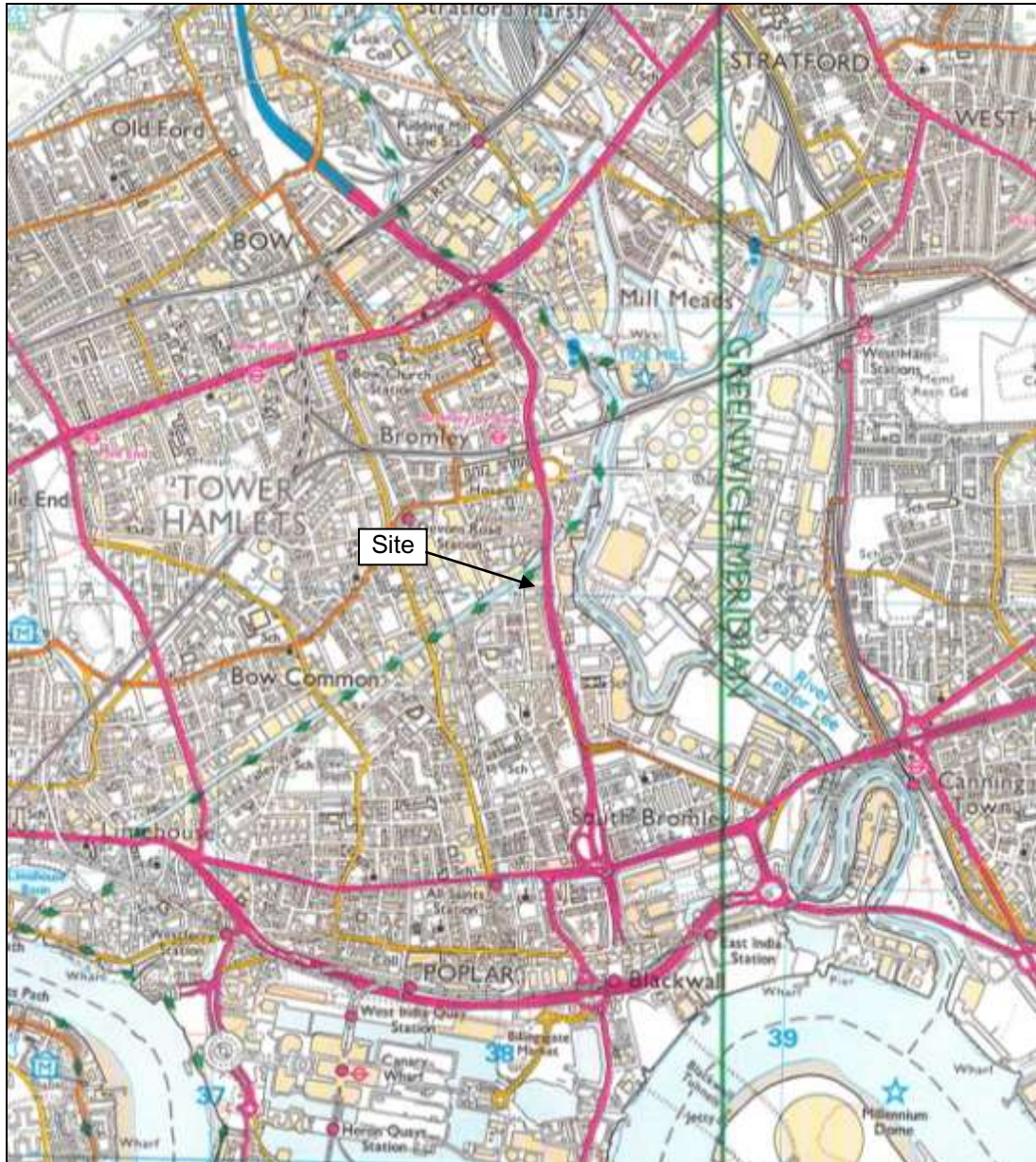


Figure 1: General location (Scale 1:25,000)

Summary

In April 2009 an evaluation was carried out at the 46-51 Gillender Street in the London Borough of Tower Hamlets, prior to the construction of a block of flats. The site is located in an area of considerable archaeological and historical importance and this has been recognised by the designation of much of the area as an Archaeological Priority Area.

Alluvium deposits most likely laid down by the River Lea that runs directly east of the site were observed within the trench. A 1st Century Roman ditch was discovered cutting and also being covered by the alluvium deposits.

1. Introduction

1.1 In April 2009 *Archaeological Services and Consultancy Ltd* (ASC) carried out an evaluation at 46-51 Gillender Street, Poplar, in the London Borough of Tower Hamlets. The project was commissioned by *Adam Deal*, and was carried out after discussions with the local planning authority (LPA), *Tower Hamlets Borough Council* by their archaeological advisor, the *Greater London Archaeological Advisory Service* (GLAAS), and a project design prepared by ASC (Fell 2009). The relevant planning application reference is PA/05/01723.

1.2 *Planning Background*

This evaluation was required under the terms of *Planning Policy Guidance Note 16* (PPG16), as a condition of planning permission for the development of the site.

1.3 *Archaeological Services & Consultancy Ltd*

Archaeological Services & Consultancy Ltd (ASC) is an independent archaeological practice providing a full range of archaeological services including consultancy, field evaluation, mitigation and post-excavation studies, historic building recording and analysis. ASC is recognised as a *Registered Organisation* by the Institute for Archaeologists, in recognition of its high standards and working practices.

1.4 *Management*

The project was managed by Karin Semmelmann BA MA MIFA, and was carried out under the overall direction of Bob Zeepvat BA MIFA.

1.5 *The Site*

1.5.1 *Location & Description*

The development site is located in Poplar, in the London Borough of Tower Hamlets. It lies on the east side of Gillender Street, c.200m east of the river Lea and is centred on Ordnance Survey National Grid Reference TQ 38200 81850 (Fig. 1). The site occupies a sub rectangular area of land of c.525 sq m and, formerly occupied by commercial and residential buildings with associated access and parking (Fig. 2). Service details have not been made available, but it is likely that the site contains a full suite of buried services.

1.5.2 Geology & Topography

The site is in an urban area and the natural soils are unlikely to survive. The underlying geology comprises Holocene alluvial clays, sand and silts overlying mottled clay and sands, being part of the Lambeth Group of the Woolwich and Reading Beds (British Geographical Survey, Sheet 256, 1:50000 series, 1998). The environmental site investigation report indicates the likely presence of modern made ground to a depth of c.1.2m (REC Ltd 2008).

1.5.3 Proposed Development

The development proposal comprises the demolition of the existing buildings and the construction of a five storey commercial and residential block.

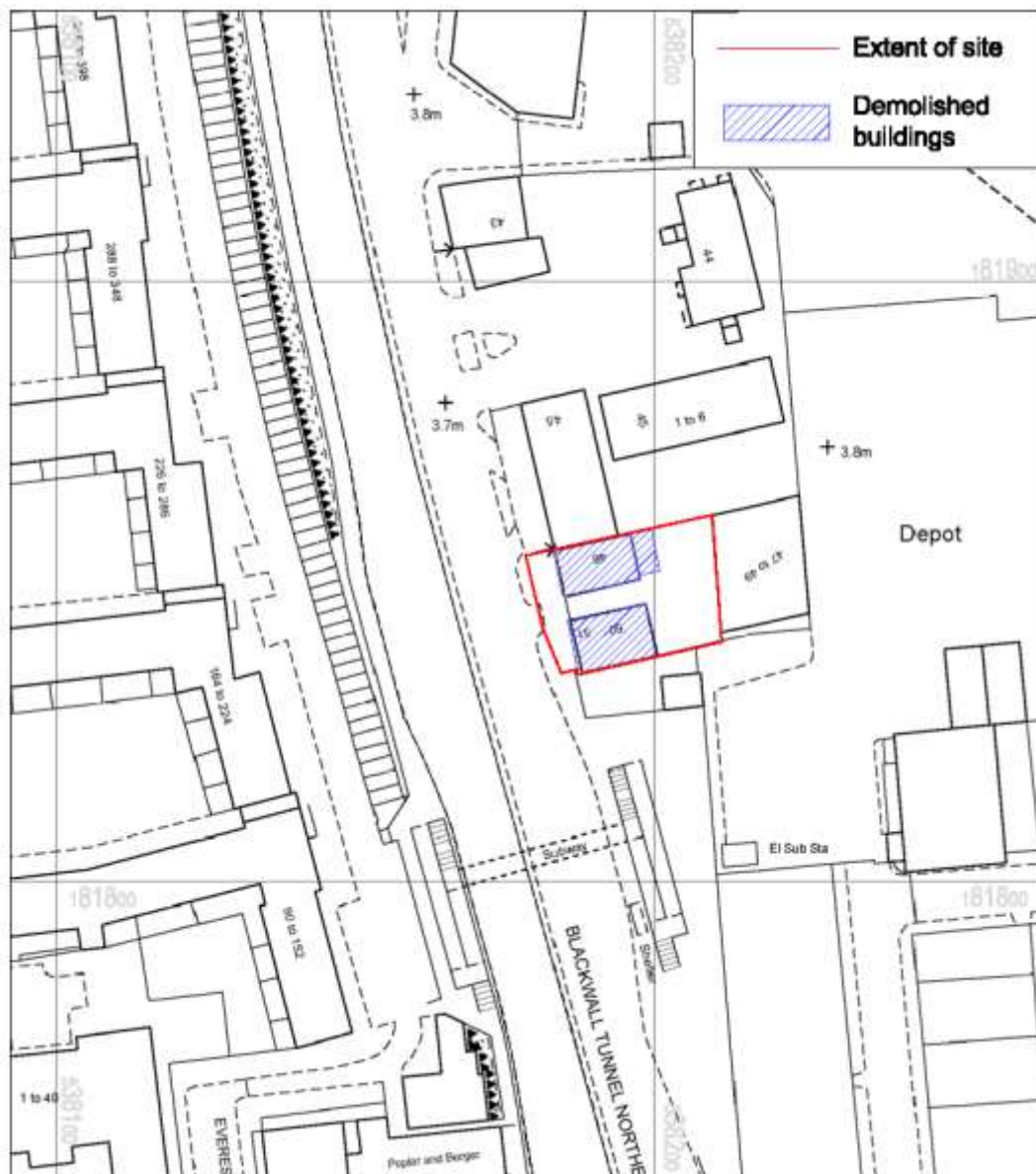


Figure 2: Site plan showing demolished buildings (Scale 1:1250)

2. Aims & Methods

2.1 *Aims*

As described in the project design (Fell 2009) the project aim was:

- To determine the location, extent, date, character, condition, significance and quality of any surviving archaeological remains.

2.2 *Standards*

The work conformed to the project design, to the requirements of GLAAS, to the relevant sections of the Institute for Archaeologists' *Standard & Guidance Notes* (IFA 2001) and *Code of Conduct* (IFA 2000a), to English Heritage guidelines (EH 1991, EH 2006), and to the relevant sections of ASC's own *Operations Manual*.

2.3 *Methods*

As described in the project design (Fell 2009) the following methodology was adapted:

- All machine excavation to be carried out under the direct supervision of an experienced archaeologist
- An appropriate machine to be used, fitted with a wide, toothless ditching bucket. Where necessary, for instance the removal of modern obstacles (e.g. concrete slabs) a toothed bucket and/or breaker may be employed.
- The machine will be used to remove topsoil or recent overburden down to the first significant archaeological horizon. The continued use of machinery beyond this point will only take place when specifically agreed by GLAAS.
- Trial trenching equal to *c.*20 linear metres to be excavated within the footprint of the proposed development.

2.4 *Constraints*

On arrival on site it was discovered that services ran east-west down the centre of the site. Therefore the trench could not be located diagonally across the site as specified. The southern half of the site had already been reinstated and prepared for the piling rig prior to construction of the flats, so it was decided after discussions with GLAAS that the trench was to be dug north of the services.

Concrete and the entrance to the site restricted the length of the trench to only 11.4m. As a result, the total area of the trench equalled 24 sq m, as opposed to the 32 sq m specified (Fig. 3).



Figure 3: Site plan showing trench location and constraints (Scale 1:250)

3. Archaeological & Historical Background

HER = Historic Environment Record Office

- 3.1 Poplar is an area of considerable archaeological and historical interest and this has been recognised by the local authority by the designation of a large area of land, to the east of the site, as an *Archaeological Priority Area*. The site has the potential to reveal evidence of a variety of periods, but the focus of attention is likely to lie in the prehistoric periods.
- 3.2 The valley of the river Lea was of considerable importance during the prehistoric periods (Nixon *et al* 2002, 21) and the site lies *c.*200m west of the river. Archaeological sites and artefacts are often preserved in peat and a number of such deposits have been recorded in this area of the river valley. Of specific relevance to the site is a sequence of peat and alluvial deposits which have been recorded from the Aberfeldy Estate, to the west of the Gillender Street (HER 74419, 73321). A number of early prehistoric flint tools have also been recorded in the immediate vicinity, including palaeolithic (HER 11206) and neolithic (HER 3950) axes which were found to the north of the site.
- 3.3 A number of palaeochannels have been identified in this area of the river valley, indicating that the natural course of the river has evolved over several millennia. A palaeochannel, dating to the Bronze Age was identified on the Aberfeldy Estate site (HER 74422), where a number of contemporary Bronze Age archaeological features were also present.
- 3.4 Little is known of the area during the Iron Age, but the significance of the region probably increased during the Roman period. There is currently no evidence for Roman settlement close to the site but the city of *Londinium* developed *c.*5km west of the site. A major road which linked *Londinium* with *Caesaromagus* (Chelmsford) passed to the north of the site and crossed the river Lea at Old Ford. The river was probably navigable during this period and may have been an important transport link, and was used to provide access for agricultural products from the north (Kendall 2000, 125; map 7).
- 3.5 The settlements at Poplar and Bromley probably developed during the Saxon and medieval periods. Bromley Hall, which still survives today, is situated *c.*50m north of the site. It was built *c.*1485 and was set in an acre of formal gardens adjoining the river Lea. It is thought to have been built by Henry VII to await the outgoing tide after hunting in the Epping Forest. Its association with hunting is seen in the carvings discovered over a ground floor doorway. An associated watercourse that ran from the house down to the river Lea can be seen on an extract from Antony Trappers map *c.*1573 (Fig 4).
- 3.6 The site lies *c.*300m immediately to the south of the Limehouse Cut, which was authorised by the River Lea Act in 1766 and provides a short cut for shipping between the River Lea and the River Thames at Limehouse. The bridge over the canal at Bromley is included in the HER (no. 73107).

- 3.7 The area is shown on the first edition Ordnance Survey one inch to the mile scale map, which was published in 1805. The map shows the settlements of Bromley and Stratford-le-Bow, to the north of the site and the route of Gillender Street is shown, linking Bromley with Poplar. A number of small buildings are shown in the immediate vicinity of the site and a large structure, probably a factory or warehouse is shown to the north. The HER records a number of industrial period structures in the area, including the Dowgate Wharf Warehouse (HER 92675). St Michael's Church, Bromley (HER 92673) is situated to the north of the site and was constructed in 1864-5.

The first large scale Ordnance Survey map was published in 1882 and shows the area in detail. The site is shown to be occupied by a row of terrace cottages with Bromley Hall at the northern end of this row. A large building, labelled 'Flour Mill' is shown immediately to the north. The area to the west of the site, on the west side of Gillender Street was occupied by a large house named 'Manorfield House'. A similar site layout can be seen Greenwoods' land survey of 1827 (Fig 5) and the School-Boards map of London of 1872 (Fig 6). Both show the site occupied by a number of small buildings with a large structure to the north. Both indicate the location of Bromley Hall as well as a possible watercourse running from the River Lea southwest towards the site. The 1872 map indicates this to be a 'pool'. It is known that the 17th century fishponds to the south of hall were reused in 1883 and converted to the use as a dock, and then in 1900 to oil tanks (VCH online).

- 3.8 The area developed considerably during the late 19th and early 20th centuries and many of the buildings in the area date to this period. Perhaps the most significant example is the Poplar public library, which is adjacent to the site and was constructed in 1904/5 (HER 93086). The HER also records the presence of an air raid shelter at no.46 Gillender Street (HER 75402). The two recently demolished buildings on the site were probably constructed during the late 19th or early 20th centuries.



Figure 4: Extract from Anthony Trappers map showing Bromley Hall as a detached gabled structure c.1573 (not to scale)

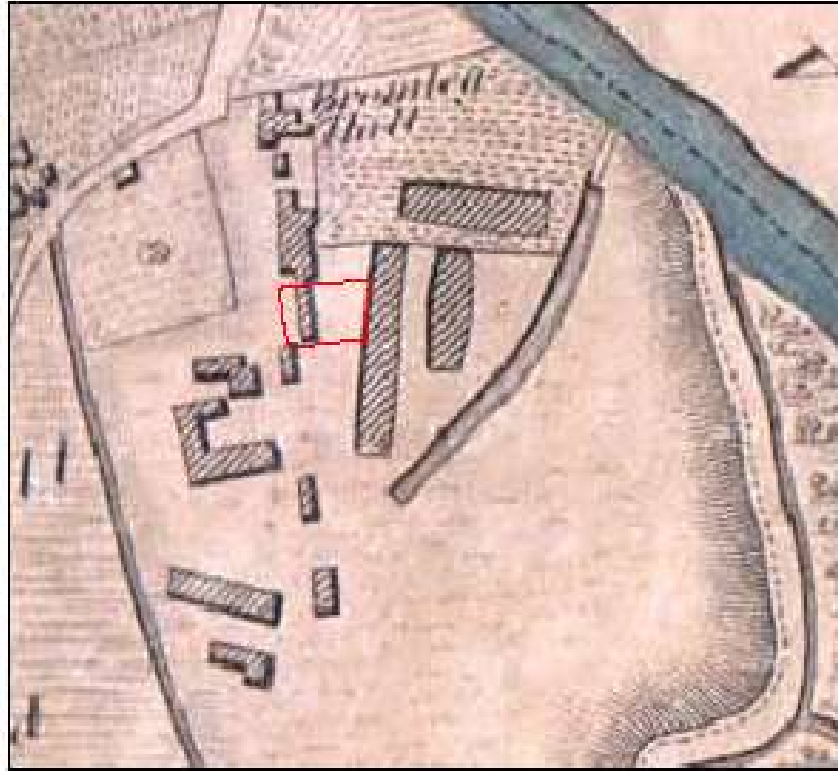


Figure 5: Extract from Christopher and John Greenwood's Map of London, c. 1827, showing site location (not to scale) *Courtesy of Sara Douglass.*



Figure 6: Extract from Edward Stanford's School-Board Map of London, c. 1872, showing site location (not to scale) *Courtesy of Sara Douglass.*

4 Results

4.1 General

4.1.1 This section provides a summary of the results of the evaluation. A full trench description, in tabular form, appears in Appendix One and conclusions appear in Section Five.

4.1.2 One trench was excavated by a 360° machine within the footprint of the proposed building. This measured c.11.4m by 2.1m and was orientated east-west (Figs 3 and 7).

4.2 Trench (Figs 3, 7 and 8, Plates 1-4)

The stratigraphy of the trench comprised modern made ground to a depth of 1.85m. This overlay different alluvium deposits consisting of silty or sandy clay, all sloping east towards the River Lea. The trench was excavated to a depth of 2.7m and the natural soils were not reached.

4.3 Ditch (Fig 3, 7 & 9, Plates 1 and 2)

A ditch [102] was revealed running northeast-southwest across the trench, 2.3m from its east end. It measured 1.0m wide and 0.2m deep and was filled by a dark grey silty clay deposit (101). Eighteen Roman Grey Ware pottery sherds were discovered within the fill of the ditch. Fifteen were composed of a sandy, grog tempered ware of mid/late 1st century date. The other three sherds were composed of grey, corky fabric with traces of a reddish brown pigment; these are thought to be slightly later in date, possibly the end of the 1st century.

4.4 Column Samples (Fig 8)

Two column samples were taken from the north facing section of the trench

4.4.1 Sample <1> was a column 0.85m in length, taken from the eastern end of the trench. It contained three alluvium deposits (104, 108 & 105)

(104) consisted of mid brown silty clay with orange mottling.

(108) consisted of mid grey and black mottled silty clay

(105) consisted of a light grey silty deposit

4.4.2 Sample <2> was a column 0.5m in length taken from the western end of the trench. It contained three alluvium deposits (104, 105 & 106)

(104) consisted of mid brown silty clay with orange mottling.

(105) consisted of a light grey silty deposit

(106) consisted of orange and grey mottled sandy clay with occasional sub-angular flint inclusions – max 40mm

Both column samples were sent for environmental analysis. The results appear in full in Appendix 4 and are summarised below:

- Sub-fossil pollen and spores have been recovered from nine of the eleven samples which were submitted for analysis.

- Pollen is sparse in these sediments which is typical of such alluvial material. However, sufficient numbers were present in sub-samples from column 1 to enable construction of a pollen diagram.
- The pollen data show a predominantly open environment at least in proximity to the site with dominance of herb pollen.
- A range of vegetation habitats are represented, including evidence for cultivation or at least use of cereals as well as probably area of grassland waste ground and the on-site floodplain marsh/fen.
- There is probable evidence of brackish water conditions which may be confirmed or otherwise by analysis of diatoms or foraminifera.
- Other than cereal pollen, there is no other pollen evidence of cultigens or exotic garden plants which relate to Romano-British settlement.
- Trees and shrubs consist largely of oak and hazel from remaining regional woodland and alder from areas of wetter valley bottoms. A single occurrence of walnut is of interest as this was a Roman introduction to Britain and Europe. This was discovered in layer (104).

4.5 A modern square stake hole measuring 70mm x 70mm was revealed 1m from the western end of the trench. Its location was recorded but it was not excavated (Fig 7).

Disturbance (109) at the west end of the trench (Fig 8, Plate 4) is most likely modern backfill material from the recently demolished shops. No other archaeological remains were observed in the trench.

4.6 A visual inspection was made of the excavated spoil from the trench but no artefacts were observed.

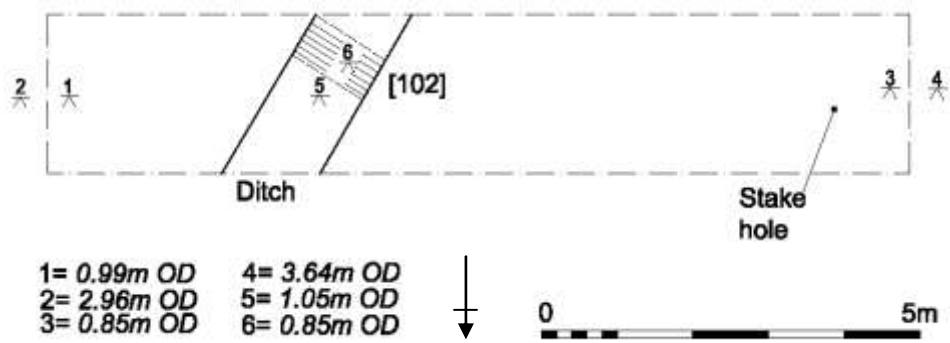


Figure 7: Trench plan (Scale 1:100)

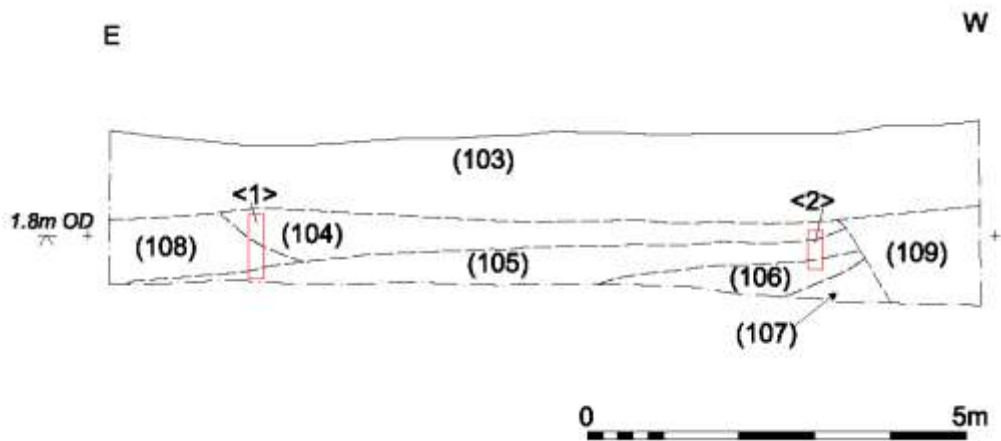


Figure 8: North facing section of trench (Scale 1:100)

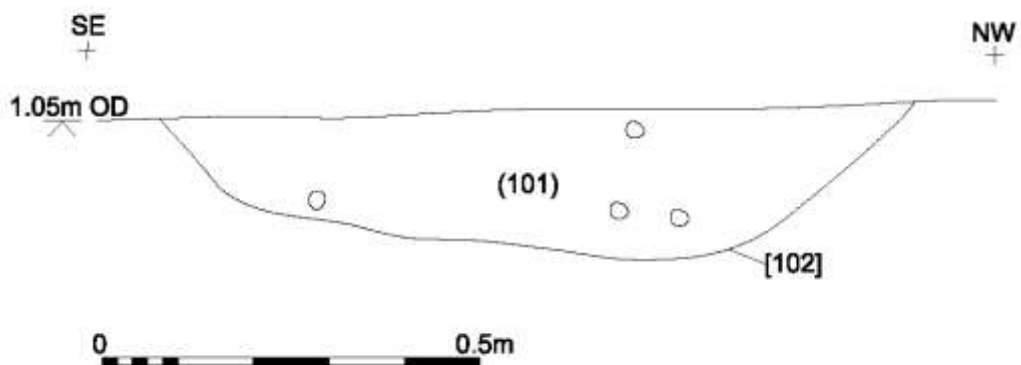


Figure 9: Northeast facing section through ditch [102] (Scale 1:20)



Plate 1: Trench Shot, looking west 2x2m scale



Plate 2: Northeast facing section through ditch [102], looking southwest 1m scale



Plate 3: Section of west end of trench, looking south 2x2m scales



Plate 4: Section of east end of trench, looking south 2x2m scales

5. Conclusions

- 5.1 Ditch [102], which ran northeast-southwest across the trench, provided the first evidence of Roman activity in the vicinity in the form of eighteen sherds of 1st century AD Roman Grey Ware pottery. The environmental evidence indicates that at this time the site was located within or at the edge of a sedge fen in an area that contained some oak, elder and hazel but was otherwise quite open.
- 5.2 The pollen remains on a riverside site such as Gillender Street are likely to have been deposited by alluvial action and may have come from some distance from their original source. Nonetheless, the samples analysed here suggest that the site remained open in the late prehistoric/early historic period, although there was an increase in tree cover and indications of change in the general environmental conditions. Context 104 shows evidence for a different sediment source and depositional regime, which may have been due to greater tidal activity (Scaife Appendix 4).
- 5.3 Although there is also pollen evidence for cultivation, the pollen may have been transported from some distance from the site and not reflect local land use. Indeed, the pollen may have come from secondary sources such as processing or waste. A further date indicator for the alluvial deposits was the walnut pollen; the walnut tree being imported by the Romans.
- 5.4 The environmental evidence suggests a marginal landscape and the archaeological evidence for Roman activity in the area rests on the pottery sherds found on the site. The ditch was undoubtedly an aid to drain the land, but it is not clear whether it was for cultivation purposes, or whether it pre-dates the Roman occupation. The pottery is certainly of the Roman period, and its presence in the ditch is as likely to have been the result of accidental deposition as deliberate.
- 5.5 Other than the late 15th century Bromley Hall, which lies just to the north of the site, there is little evidence for later historic periods in the immediate area as much has been redeveloped over time. The London School Board Map of 1872 shows the site consisting of a terrace of buildings immediately south of Bromley Hall with two fishponds set in a formal garden to the rear. In 1883 warfingers were using these 17th century fish ponds to the south of Bromley hall as a dock, and by 1900 these were converted to tanks belonging to the oil company on the site. No evidence for any of these activities was found during the evaluation. However, the watercourse shown on Trappers' plan of 1587 may have been the antecedent for the southernmost pool shown on the 1872 map and the watercourse that can be seen on the 1827 land survey which in turn were converted to a dock and then oil tanks.
- 5.6 ***Confidence rating***
On-site conditions for the archaeological works were good and the work took place in predominantly dry weather. Reasonable co-operation was received from the contractors and a mid-high degree of confidence is attached to the results of the archaeological works.

6. Acknowledgements

The evaluation was commissioned by Mr Adam Deal. The writer is grateful to Adam for his assistance. The project was monitored by Rob Whytehead on behalf of the local planning authority. Thanks are also due to Geoff the Site Manager for his cooperation.

The project was managed for ASC by Karin Semmelmann BA MA MIFA. Fieldwork was carried out by David Kaye BA AIFA and Martin Cuthbert BA (Hons) PIFA. The report was prepared by Martin Cuthbert and edited by Bob Zeepvat BA MIFA.

7. Archive

7.1 The project archive will comprise:

1. Project Design
2. Initial Report
3. Clients site plans
4. Site records
5. Finds records
6. Finds
7. Sample records
8. Site record drawings
9. List of photographs
10. B/W prints & negatives
11. Original specialist reports and supporting information
12. CDROM with copies of all digital files.

7.2 The archive will be deposited with *London Archaeological Archive and Research Centre (LAARC)*.

8. References


Standards & Specifications

- EH 1991 *The Management of Archaeological Projects*, 2nd edition. English Heritage (London).
- Fell. D 2009 *46-51 Gillender Street, London Borough of Tower Hamlets: Project Design for Archaeological Evaluation*. ASC document ref. 1162/THG/1
- IFA 2000a Institute for Archaeologists' *Code of Conduct*.
- IFA 2001 Institute for Archaeologists' *Standard & Guidance documents (Desk-Based Assessments, Watching Briefs, Evaluations, Excavations, Investigation and Recording of Standing Buildings, Finds)*.

Secondary Sources

- BGS *British Geological Survey 1:50,000 Series, Solid & Drift Geology*.
- Kendall M, 2000 *The Archaeology of Greater London: an assessment of archaeological evidence for human presence in the area now covered by Greater London*. Museum of London
- Nixon T, McAdam E, Tomber R & Swain H (eds) 2002 *A Research Framework for London Archaeology 2002* Museum of London
- SEC Ltd 2008 *Environmental Site Investigation: 46-51 Gillender Street*. Resource and Environmental Consultants Ltd
- Soil Survey 1983 *1:250,000 Soil Map of England and Wales, and accompanying legend*
- VCH online: 'Bromley Hall', *Survey of London: volume 1: Bromley-by-Bow* (1900), pp. 17-18. URL: <http://www.british-history.ac.uk/report.aspx?compid=74442>

Appendix 1: Trench Summary Tables

Trench						
	Max Dimensions (m)					
	Length	11.4m	Width	2.1m	Depth	2.7m
	Levels					
	Trench base east		0.99m OD			
	Trench top east		2.96m OD			
	Trench base west		0.85m OD			
	Trench top west		3.64m OD			
	Ditch [102] top		1.05m OD			
	Ditch [102] base		0.85m OD			
	NGR Co-ordinates					
	Easting	38195	Northing	81860		
	Orientation		East - West			
Reason for Trench		General Evaluation				
Context	Type	Description and Interpretation	Width (max: m)	Thickness (max: mm)	Depth (BGL: m)	
103	Layer	Made ground	N/a	1.15m	0m	
109	Layer	Re-deposited dark grey and black mottled alluvium	N/a	>1.00m	c.1.70m	
104	Layer	Mid brown with orange mottling, silty clay	N/a	400mm	1.85m	
108	Layer	Mid grey and black mottled silty clay - alluvium	N/a	850mm	1.85m	
105	Layer	Light grey silty clay - alluvium	N/a	450mm	2.15m	
101	Fill	Fill of Ditch [102]	1.00m	200mm	2.70m	
102	Cut	Cut of Ditch	1.00m	N/a	2.90m	
106	Layer	Orange and grey mottled sandy clay - alluvium	N/a	400mm	2.40m	
107	Layer	Dark grey and black mottled sandy silt - alluvium	N/a	>550mm	2.45m	

Appendix 2: List of Photographs

SITE NAME: 46-51 Gillender Street			SITE NO/CODE: 1162/THG
Shot	B&W	Digital	Subject
1	√	√	Trench Shot, looking West 2x2m scale
2	√	√	Trench Shot, looking West 2x2m scale
3	√	√	Northeast facing section through ditch [102], looking southwest 1m scale
4		√	Northeast facing section through ditch [102], looking southwest 1m scale
5		√	Northeast facing section through ditch [102], looking southwest 1m scale
6		√	Northeast facing section through ditch [102], looking southwest 1m scale
7		√	Northeast facing section through ditch [102], looking southwest 1m scale
8	√	√	Section of west end of trench, looking south 2x2m scales
9	√	√	Section of west end of trench, looking south 2x2m scales
10	√	√	Section of east end of trench, looking south 2x2m scales
11	√	√	Section of east end of trench, looking south 2x2m scales
12		√	Section of east end of trench, looking south 2x2m scales
13		√	Photo of location in section of sample number 1
14		√	Photo of location in section of sample number 1

Appendix 3: Finds Concordance

Context	Pottery		Bone		Flint (no)	Shell (g)	Stone (no)	Other Finds	
	(no)	(g)	(no)	(g)				Type	(no)
101	18	202g							

Appendix 4: Specialist Reports

1. Gillender Street, Tower Hamlets: Pollen Assessment

Dr Rob Scaife

Visiting Reader in Palaeoecology

1.1. Introduction

Excavations at Gillender Street revealed a substantial thickness of fine grained, alluvial sediment. These were perceived as having potential for pollen analysis and thus reconstruction of the past local vegetation environment of the site. Two monolith profiles were taken from the excavation which span the principal archaeological/sedimentological contexts.

The principal aims of this assessment were to establish whether sub-pollen and spores are present in the peat, state of preservation, and potential of this site for reconstructing past vegetation and environmental changes, especially in relation to human impact and archaeology. Pollen was recovered from eight of the eleven samples submitted for analysis and this report details the results obtained from this assessment analysis.

1.2. Pollen procedures

Pollen sub-samples of 1.5ml volume were processed using standard techniques for the extraction of the sub-fossil pollen and spores (Moore and Webb 1978; Moore *et al.* 1992). A pollen sum of up to 200 grains per level was counted for each sample where preservation allowed. Fern spores (Pteropsida) were counted outside of the basic pollen sum. Data are presented in the pollen diagram for column <1> contexts (108) (104), table (1); and (106) for column <2>. Percentages have been calculated as follows.

Sum = % total dry land pollen (tdlp).
Spores = % tdlp + sum of spores
Misc. = % tdlp + sum of misc. taxa.

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 School of Geography, University of Southampton.

1.3 The Pollen Data

Two monolith profiles (<1> and <2>) have been examined from the North facing section of the trench. In both profiles, herbs predominate with fewer trees and shrubs. Pollen preservation is very variable and typical of pollen from such minerogenic sediments.

1.3.1 Column <1> (108) (104)

Sample <1> produced the best palynological record with pollen present from 70cm to 10cm allowing a pollen diagram to be constructed. Two pollen zones have been recognised which relate to the changing stratigraphy/contexts between lower (108) and (104). The characteristics of these zones are given in table 1 below.

<p style="text-align: center;">Zone 2</p> <p>45 cm to 10cm.</p> <p>Context (104)</p> <p><i>Poaceae-Pre-Quaternary palynomorphs</i></p> <p>Brown silty clay gleyed alluvium</p>	<p>Trees and shrubs are more important than the preceding zone. <i>Quercus</i> (to 20%), <i>Alnus</i> (23%) and <i>Corylus avellana</i> type (to 10%) have increasing percentages. Herbs remain dominated by Poaceae (30%) with some increase in Chenopodiaceae (ca. 15%) and cereal pollen (7%).</p> <p>Lactucoideae of the preceding zone are much reduced (to 5%). Cyperaceae (10%) remains the most important taxon with occasional occurrences of <i>Lemna</i>, cf., <i>Hottonia</i> and algal <i>Pediastrum</i> cysts.</p> <p>There is a significant rise in numbers of derived pre-Quaternary spores and dinoflagellates.</p>
<p style="text-align: center;">Zone 1</p> <p>70cm to 45cm.</p> <p>Context (108)</p> <p><i>Poaceae-Cyperaceae- Pteridium</i></p> <p>Grey/black mottled silty clay alluvium</p>	<p>Few trees and shrubs with <i>Quercus</i> (5%), <i>Alnus</i> (to 7%) and <i>Corylus avellana</i> type (7%). Sporadic <i>Betula</i>, <i>Pinus</i>, <i>Tilia</i> and <i>Juglans</i>. Herbs are dominant with Poaceae (40%) and Lactucoideae (25% in basal level). Cereal pollen (1-2%), Chenopodiaceae (10%), <i>Sinapis</i> type (peak to 16%), <i>Plantago lanceolata</i> and Asteraceae types are present.</p> <p>Marsh/fen taxa are dominated by Cyperaceae (32%) with <i>Typha angustifolia</i> type. Spores of <i>Pteridium aquilinum</i> are important (42%) with small numbers of <i>Dryopteris</i> type (to 16%) and <i>Polypodium vulgare</i>.</p>

Table 1: Pollen zonation of Column 1.

1.3.2 Column <2> (106).

Pollen samples were analysed from (contexts 104) and (106). However, pollen was only recovered from 2 of the four samples analysed at 25cm (105+106) and 40cm (106). The pollen assemblages are similar to those found in column <1>.

There are few trees and shrubs in relation to herbs. The former comprise largely *Quercus* (oak; 13%) *Alnus* (alder; 5%) and *Corylus avellana* type (hazel; 5%).

Herbs are dominated by Poaceae (grasses; 16-30%), cereal type (7-9%) with Lactucoideae (dandelion types; 37% at 25cm). Marsh/fen types are dominated by Cyperaceae which are more important in the upper sample at 25cm (41%).

Spores comprise monolete Pteropsida (*Dryopteris* type; to 14%) with *Pteridium aquilinum* (to 24%). Derived pre-Quaternary palynomorphs are present (13-20% sum + misc.)

1.4 The vegetation and environment

All of the samples examined are minerogenic and probably of alluvial origin. As such, the taphonomy of the pollen recovered will be more complex than for peat where the pollen is largely autochthonous and from airborne input. In alluvial sediments, pollen may also be fluvially transported from some distance from the site of deposition and may also incorporate reworked and older pollen. This is certainly the case here as indicated by the substantial presence of older geological palynomorphs, largely spores of Tertiary age in all samples, but especially in context 104 (zone 2) where there is also more evidence of fluvial conditions. Useful information has, however, been obtained from this preliminary analysis of the sedimentary sequences.

Column 1 has provided the most useful date. This spans contexts (108) and (104) with two pollen zones which relate to the transition between these contexts. Absence of trees and dominance of herbs throughout the sequence suggests that the environment was open. Cereal pollen also indicates that agriculture was taking place within the catchment (including the fluvial catchment).

The on-site vegetation was initially dominated by grass-sedge fen which contained reed swamp plant including bur reed and/or reed mace (*Typha angustifolia* type) which was probably growing on the river flood plain. Subsequently, in zone 2, there is evidence that the habitat was becoming wetter or flooded as indicated by the occasional presence of aquatic plants including duckweed (*Lemna*) and possibly water crowfoot (*Hottonia palustris*). Cysts of freshwater algal *Pediastrum* are also a strong indicator of such conditions. However, the changing sedimentary context and the presence of large numbers of derived geological spores demonstrates that there was a change in sediment source and depositional regime. Sedge fen remained, probably not on, but near to the site. Column <2> is comparable with evidence of grass, sedges and bur-reed and/or reed mace from such a fen.

Pollen derived from the terrestrial zone shows a predominantly open environment, at least in proximity to the site. The pollen assemblages are typical of the very late pre-historic and historic period (s) for the London region (Scaife 2000; Wilkinson *et al.* 2000). Comparative evidence comes from a number of Thames and its tributary, floodplain sites where alluvial deposits of this period overly late prehistoric (Neolithic and Bronze Age) peat. Published sites include those examined along the Jubilee Extension Line (Sidell *et al.* 2000) and Somerset House (Scaife 2004a).

Overall, tree and shrub pollen are largely from oak (*Quercus*) and hazel (*Corylus avellana*) which formed remaining woodland in the region. Pollen recovered comes from airborne and fluvial sources, Increase of these arboreal types in zone 2 (104) probably comes from fluvial transport. Birch (*Betula*) and pine (*Pinus*) are also present but, being high pollen producers are of little significance. Lime (*Tilia*), holly (*Ilex*) are, in contrast very poorly represented in pollen assemblages and their presence here may be indicative of some local growth. Again, however, fluvial transport (and possibly reworking from older sediments) needs to be considered. Of significance is a

single grain of walnut (*Juglans regia*). This tree was a Roman introduction into Europe as a whole and its presence is, thus, a good datum marker for the age of the sediments. It has been found in a number of other London sites (Scaife 2000). These include the Temple of Mithras (Scaife 1982), the Tower of London Moat (Scaife 2004b), Spitalfields medieval Hospital (Scaife 2006) and from a number of peat sequences in the London Region (Greig 1992). Once introduced the palynological evidence is that it survived until the present.

Pollen from herb communities predominate. Grass pollen is dominant and probably comes from a range of different habitats/communities including the on-site fen community noted as well as grassland, possibly pasture. Cereal pollen is present in both profiles and attests to cultivation. However, apart from the obvious conclusion that there was local growth/cultivation, it is also possible that the pollen may derive from secondary sources. That is, pollen liberated from the ears of grain during crop processing activities (threshing and winnowing) or from domestic waste (esp. ordure) which was disposed of into the river or on its floodplain. No other cultigens or exotic plant introductions were observed in this study.

Of note is the consistent occurrence of pollen of Chenopodiaceae which include goosefoots and oraches. This family includes, many halophytes (salt tolerant plants) and thus, pollen in such sedimentary situations is often regarded as a possible indicator of marine or brackish water conditions. Alluvial sediments of this age along the Thames and the downstream zones of its tributaries were subject to such late prehistoric/early historic marine ingress. This resulted from the continued post-glacial regional rise in relative (to land) sea level. This may be confirmed by analysis of the diatoms and/or foraminifera.

1.5. Summary and Conclusions

In this preliminary/assessment study, some useful information has been gained the following principal points have been made.

- * Sub-fossil pollen and spores have been recovered from nine of the eleven samples which were submitted for analysis.
- * Pollen is sparse in these sediment which is typical of such alluvial material. However, sufficient numbers were present in sub-samples from column 1 to enable construction of a pollen diagram.
- * The pollen data show a predominantly open environment at least in proximity to the site with dominance of herb pollen.
- * There are a range of vegetation habitats represented which include evidence for cultivation or at least use of cereals as well as probably area of grassland waste ground and the on-site floodplain marsh/fen.
- * There is probable evidence of brackish water conditions which may be confirmed or otherwise by analysis of diatoms or foraminifera.

* Other than cereal pollen, there is no other pollen evidence of cultigens or exotic garden plants which relate to the Romano-British settlement.

* Trees and shrubs consist largely of oak and hazel from remaining regional woodland and alder from areas of wetter valley bottoms. A single occurrence of walnut is of interest as this was a Roman introduction to Britain and Europe as a whole.

1.6. Suggested further analysis.

If further analysis is required (as for publication), this should concentrate on column <1> which has better pollen preservation. Additional sample levels would add stratigraphical detail. This should be at least 5cm intervals throughout. Additional pollen counts should be made with counts of 400 grains or more per sample where preservation allows. It is, however, likely given the sparse pollen concentrations that this may not be feasible.

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2. Gillender Street, Tower Hamlets: Initial pottery report

Dr Jonathan Hunn

- 2.1 The assemblage consisted of eighteen fragments (202g) of pottery, of which the majority (15) was composed of a predominately sandy, grog tempered ware. Six sherds were rim fragments belonging to a single vessel of jar form (the body of the vessel was 4mm thick) of mid/late 1st century AD date. There was 1 base and 2 body sherds of a grey, almost vesicular, slightly corky fabric with traces of a reddish brown pigment, which might be the result of staining in the ground. This fabric looks later than the grog tempered ware, and is possibly of late 1st century date. Therefore, the overall assemblage can be assigned to an early Roman date. The slightly abraded quality of the sherds suggests they were not immediately buried after breakage.

Appendix 5: ASC OASIS Form

PROJECT DETAILS			
Project Name:	46-51 Gillender Street, London Borough of Tower Hamlets		
Short Description:	In April 2009 an evaluation was carried out at the 46-51 Gillender Street in the London Borough of Tower Hamlets, prior to the construction of a block of flats. The site is located in an area of considerable archaeological and historical importance and this has been recognised by the designation of much of the area as an Archaeological Priority Area. Alluvium deposits most likely laid down by the River Lea that runs directly east of the site were observed within the trench. A 1 st Century Roman ditch was discovered cutting and also being covered by the alluvium deposits.		
Project Type: (indicate all that apply)	Trial Trenching		
Site status: (eg. none, SAM, Listed)	None	Previous work: (eg. SMR refs)	None
Current land use:	Previous shop	Future work: (yes / no / unknown)	No
Monument type:	N/a	Monument period:	N/a
Significant finds: (artefact type & period)	Pottery Roman grey coarse wares		
PROJECT LOCATION			
County:	Greater London	OS reference: (8 figs min)	TQ 38200 81850
Site address: (with postcode if known)	46-51 Gillender Street, Poplar, London Borough of Tower Hamlets, E146RN		
Study area: (sq. m. or ha)	525 sq m	Height OD: (metres)	
PROJECT CREATORS			
Organisation:	Archaeological Services & Consultancy Ltd		
Project brief originator:	N/a	Project design originator:	ASC Ltd
Project Manager:	Karin Semmelmann	Director/Supervisor:	Martin Cuthbert
Sponsor / funding body:	Mr Adam Deal		
PROJECT DATE			
Start date:	14-04-2009	End date:	14-04-2009
PROJECT ARCHIVES			
	Location (Accession no.)	Content (eg. pottery, animal bone, files/sheets)	
Physical:	London Archaeological Archive and Research Centre	Pottery	
Paper:		Site records, report, photographs, specialist reports	
Digital:		CD-ROM with copies of all digital files	
BIBLIOGRAPHY (Journal/monograph, published or forthcoming, or unpublished client report)			
Title:	ARCHAEOLOGICAL EVALUATION: 46-51 GILLENDER STREET TOWER HAMLETS LONDON		
Serial title & volume:	ASC Ltd Report ref. 1162/THG		
Author(s):	Martin Cuthbert BA		
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