

# RUBY TRIANGLE LONDON BOROUGH OF SOUTHWARK

## A Report on the Geoarchaeological Monitoring

**NGR:** TQ 3460 7785

**Date:** 21<sup>st</sup> February 2018

**Site Code:** RTL18

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## 1. NON-TECHNICAL SUMMARY

A programme of geoarchaeological monitoring was carried out at the Ruby Triangle site in order to (1) to clarify the nature of the sub-surface stratigraphy across the site; and (2) to clarify the nature, depth, extent and possible date of any alluvium or Langley Silt deposits. In order to address these aims, a total of three geotechnical boreholes were monitored on-site, with the geotechnical logs from the remaining interventions also examined, in order to produce a basic deposit model of the major stratigraphic units at the site.

The deposits overlying the bedrock consist predominantly of the Kempton Park Gravel, overlain in one sequence by a thin (0.3m thick) horizon of possible Langley Silt, and elsewhere, Made Ground. The surface of the Gravel lies at between ca. 0.5 and 1.5m OD across the site, generally rising towards the south/southeast to a level of around 1.5m OD. Overlying the higher Gravel surface towards the southeast of the site a unit interpreted as a possible remnant of the Langley Silt was recorded in one geotechnical intervention at between 1.85 and 1.55m OD. The Langley Silt was not observed in any of the other geotechnical boreholes; Made Ground directly overlies the Gravel elsewhere, in some places possibly truncating the natural sequence.

On the basis of the limited presence and thin nature of the Langley Silt at the site, no further geoarchaeological interventions are recommended. The elevation of the Gravel, and the location of the site not far from the floodplain edge, indicates that there is some potential for archaeological evidence or remains to be present. However, it is significant that across the majority of the site the Made Ground directly overlies the Gravel, and in places this may have truncated the natural sequence, thus having a significant negative impact on its archaeological potential.

## 2. INTRODUCTION

### 2.1 Site context

This report summarises the findings arising out of the geoarchaeological monitoring of geotechnical site investigations, undertaken by Quaternary Scientific (University of Reading) in connection with the proposed development of land at Ruby Triangle, London Borough of Southwark (National Grid Reference: centred on TQ 3460 7785; Figures 1 & 2). Quaternary Scientific were commissioned by CgMs Consulting to undertake the geoarchaeological investigations. The area of investigation is located close to the floodplain of the estuarine Thames, ca. 2km to the south of the modern waterfront, but mapped as lying on the higher, drier ground of the gravel terrace. The site is bounded to the north and west by Sandgate Street, to the east by Ruby Street, and to the south by Old Kent Road (Figure 1). The majority of the site is located within the Archaeological Priority Zone (APZ) of Bermondsey Lake, whilst the southwestern part is located within the Old Kent Road APA as defined by the London Borough of Southwark (see Figure 1 and CgMs, 2017).

No geotechnical data is currently available for the site, although the British Geological Survey (BGS; <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>) show the site underlain by Palaeogene Thanet Sand bedrock, with superficial geology of Late Devensian (17-30,000 years before present) Langley Silt. The Early to Middle Devensian (30-80,000 years before present) Kempton Park Gravel is mapped as the superficial geology just to the north of the site, and this most likely underlies the Langley Silt (where present) within the area of the site. The wider area of Southwark, in particular the floodplain mapped ca. 100m to the north, is characterised by a network of Late Devensian/Early Holocene channels and elevated gravel islands that have formed foci of human activity in the past. The site lies to the southeast of the Bermondsey and Horsleydown eyots, areas of higher, drier ground that were the focus of human activity during the prehistoric period (see Cowan *et al.*, 2009 and Sidell *et al.*, 2002).

### 2.2 Palaeoenvironmental and archaeological significance

In the absence of geotechnical or geoarchaeological records for the site, the nature, character and extent of the surviving Quaternary sequence at the Ruby Triangle site is uncertain. Where organic-rich units or peat survive, these have the potential to provide evidence for prehistoric and historic human activity on both the wetland and dryland surfaces adjacent to the site, which should be compared with existing evidence for this area of Southwark. Variations in the height of the gravel surface, and the type, thickness and age of the subsequent Holocene deposits within the vicinity of the site are significant as they represent different environmental conditions that would have existed in a given location. For example: (1) the varying surface of the Gravel may represent the location of pre-Holocene river terraces, former channels and bars; (2) the presence of peat represents former terrestrial or semi-terrestrial land-surfaces, and (3) the various alluvial units represent periods of changing hydrological conditions. Thus by studying the sub-surface stratigraphy across the site in greater detail, it will be possible to build an understanding of the former landscapes and environmental changes that took place across space and time.

Within the area of Bermondsey Lake ca. 300m to the northeast of the present site at Bramcote Green/Grove (Thomas & Rackham, 1996) a sequence of up to 3m of organic-rich alluvial sediments accumulated during the Devensian Late Glacial, followed by a Holocene sequence of clay and peat horizons dated to the Late Mesolithic through to the Late Bronze Age. Within this sequence of clay and peat two phases of trackway construction were identified, the second of these phases dated to the Middle Bronze Age (Thomas & Rackham, 1996). Here, the underlying gravel topography was recorded at between -1.0 and -5.1m OD, the gravel falling from the western area of the site towards the north (-2.2m OD) and east (-5.1m OD) (Thomas & Rackham, 1996). Similar elevations for the gravel surface have been recorded within the Bankside Channel towards the northeast, where the gravel has been recorded as low as -4.55m OD (see Young, 2015). Previous work in the area of Bermondsey Lake have identified sediments dating from the Mesolithic through to Late Bronze Age cultural periods. Furthermore, wooden structures dated to the Bronze Age have been identified in this area, including ca. 150m to the west at Bramcote Green (3995-4080 cal BP; Thomas & Rackham, 1996), whilst at the Bricklayer's Arms (Jones, 1991) two Neolithic flint axes, a wooden platform, hearths and horse bones were identified on the margins of the Bermondsey eyot and out in to the adjacent lake basin ca. 500m to the west (Sidell *et al.*, 2002).

Given the location of the site on the higher, drier ground of the Kempton Park terrace, it seems unlikely that thick sequences of alluvial sediments have accumulated here. However, in the absence of site-specific geotechnical data for the site, there is some uncertainty as to the nature of the superficial geology underlying it, and its associated Palaeolithic archaeological potential. The sand and gravel forming the Middle to Late Devensian Kempton Park Gravel of Gibbard (1994) was deposited under cold climate conditions in a braided river environment, and its surface is often characterised by longitudinal gravel bars separated by inter-bar channels in which finer-grained deposits may be preserved. With regard to archaeological remains and in particular Palaeolithic artefacts, none appear to have been recorded anywhere from the Kempton Park Gravel (see Wymer 1968, Map 9). The apparent absence of archaeological remains within this Gravel as a whole is consistent with the generally accepted absence from Britain of either Neanderthals or modern humans during the Ipswichian, and their sparse and discontinuous presence during the whole of the post-Ipswichian period into which the Kempton Park Gravel may fit stratigraphically. It is therefore considered highly unlikely that that any surviving remnants of the Kempton Park Gravel at the site might contain Palaeolithic archaeological remains, either in primary context or as individual artefacts contemporary with the deposition of the gravel. It is also unlikely that any organic sedimentary units are present within the gravel body.

Overlying the Kempton Park Gravel in this area, and in many places elsewhere in southern Britain, silt-rich deposits known as 'brickearth' (the Langley Silt) are recorded, considered to be of Late Devensian age. This unit has a silt content ranging up to ca. 70%, and is generally regarded as a mixture of windblown silt, redistributed by surface wash, and mixed with local fine-grained sediment. With regards to its archaeological potential, elsewhere in London archaeological investigations at Creffield Road (Brown, 1886; 1887) recovered Levallois artefacts from deposits which would now be described as the Langley Silt. Later excavation at Creffield Road (Bazely *et al.*, 1991) exposed the

Langley Silt and the gravels of the underlying Lynch Hill Gravel, recovering artefacts only from the Langley Silt. The prehistoric archaeological potential of the site is summarised in more detail in CgMs (2017).

### **2.3 Aims and objectives**

Geoarchaeological records are required in order to enhance our understanding of the sub-surface stratigraphy at the Ruby Triangle site, and to assess its palaeoenvironmental and Palaeolithic archaeological potential. Five significant research aims relevant to the geoarchaeological investigations at the site are outlined here:

1. To clarify the nature of the sub-surface stratigraphy across the site;
2. To clarify the nature, depth, extent and likely date of any alluvium or Langley Silt deposits;
3. To investigate whether the sequences contain any artefact or ecofact evidence for prehistoric or historic human activity;
4. To investigate whether the Kempton Park Gravel at the site contains any organic units suitable for palaeoenvironmental reconstruction of the site.

In order to address the first two of these aims, a total of three geotechnical boreholes were monitored during the geotechnical investigations at the site, and a programme of basic geoarchaeological deposit modelling undertaken, incorporating existing geotechnical and geoarchaeological data from the site.



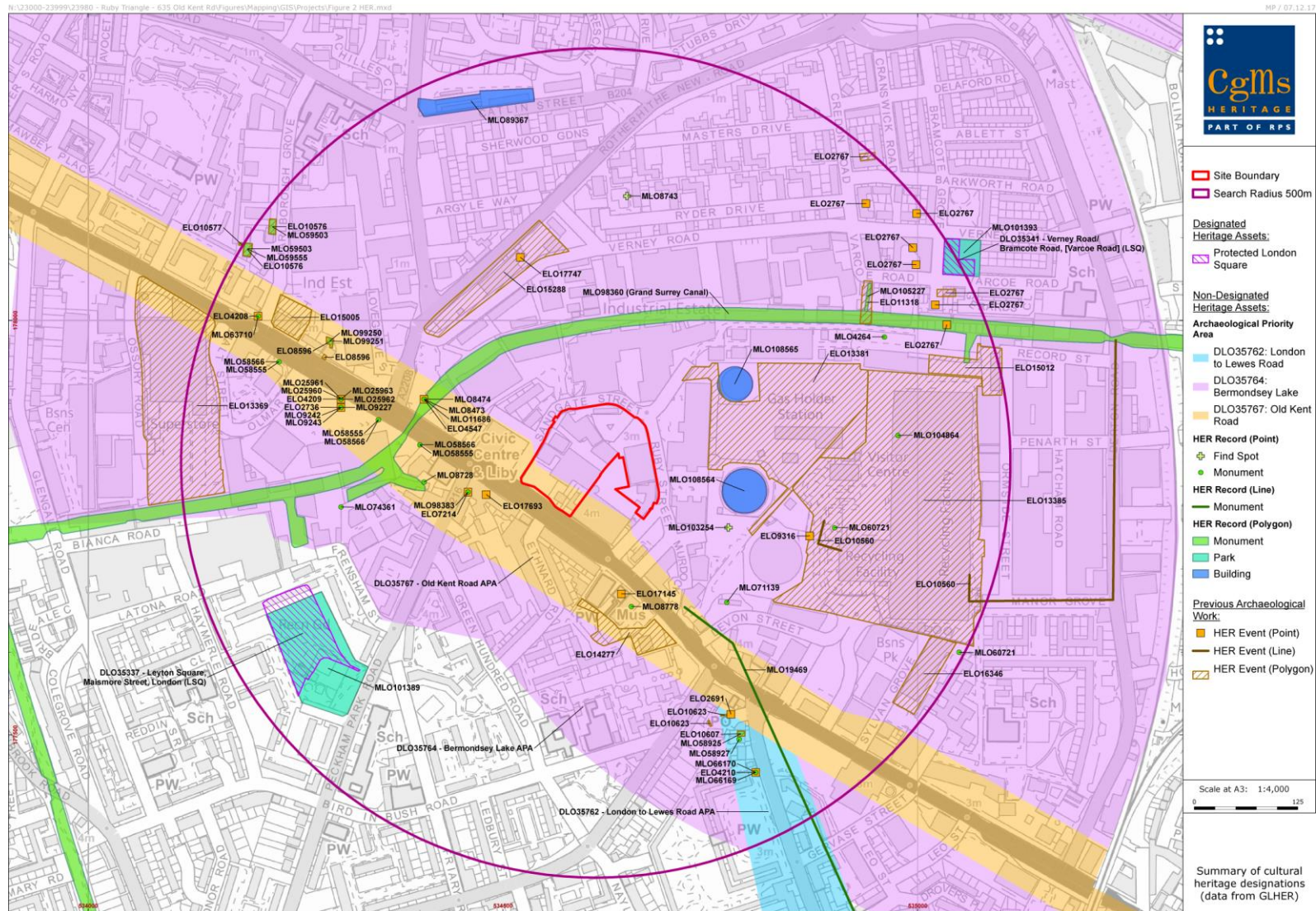


Figure 1: Location of Ruby Triangle, Southwark with Greater London Historic Environment data (figure provided by CgMs).

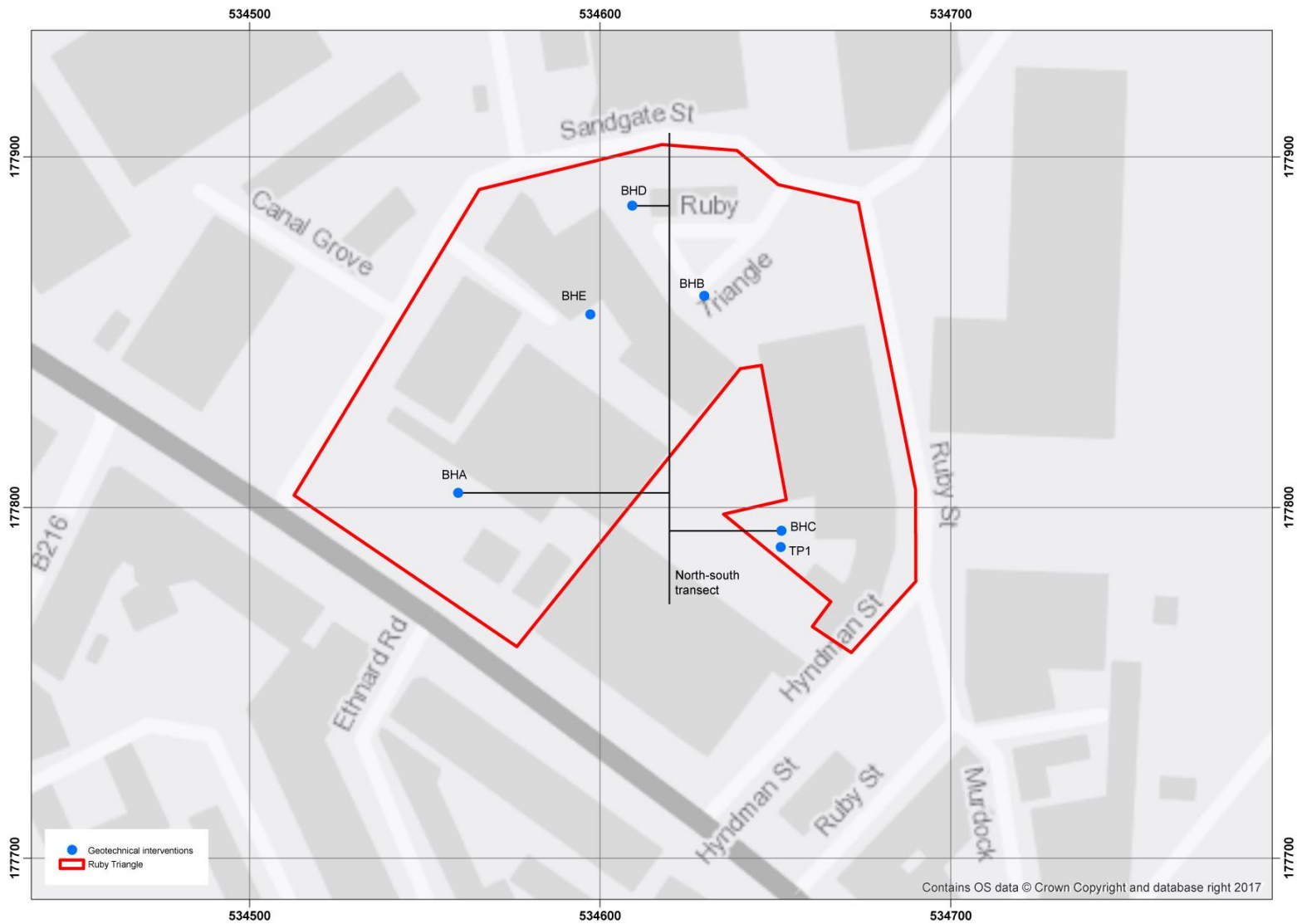


Figure 2: Location of the new geotechnical boreholes at Ruby Triangle, London Borough of Southwark (north-south transect of boreholes [Figure 3] also shown).



## 3. METHODS

### 3.1 Field investigations

A total of five geotechnical boreholes (using a cable percussion rig) and one trial pit (using a mechanical excavator) were put down at the site in January 2018 by CJ Associates (see Table 1 and Figure 2). Of these, three of the boreholes (BHA, BHC and BHD) were monitored by a geoarchaeologist. These boreholes were selected in order to provide a good distribution of geoarchaeological records across the site, with one put down in each of the northern, south-western and south-eastern areas of the site. At the time of writing, the geotechnical logs for borehole BHB were not yet available, although the remainder of the geotechnical logs have been examined and these are shown in Figure 3.

### 3.2 Lithostratigraphic descriptions

The lithostratigraphy of the monitored boreholes was described in the field using standard procedures for recording unconsolidated sediment and organic sediments, noting the physical properties (colour), composition (gravel, sand, clay, silt and organic matter) and inclusions (e.g. artefacts) (Tröels-Smith, 1955). The procedure involved: (1) cleaning the sample using a scalpel; (2) recording the physical properties, most notably colour using a Munsell Soil Colour Chart; (3) recording the composition; gravel (*Grana glareosa*; Gg), fine sand (*Grana arenosa*; Ga), silt (*Argilla granosa*; Ag) and clay (*Argilla steatoides*); (4) recording the degree of peat humification and (5) recording the unit boundaries e.g. sharp or diffuse. The results of the geoarchaeological description of boreholes BHA, BHC and BHD are displayed in Tables 2 to 4.

Table 1: Spatial data for the new geotechnical interventions at Ruby Triangle, London Borough of Southwark.

Name	Easting	Northing	Elevation
<i>Monitored for geoarchaeological purposes</i>			
BHA	534559.48	177804.12	3.28
BHC	534651.74	177793.27	3.85
BHD	534609.13	177886.07	2.44
<i>Not monitored</i>			
BHB	534629.74	177860.29	2.21
BHE	534597.25	177855.03	2.27
TP1	534651.52	177788.62	3.75

## 4. RESULTS, INTERPRETATION & DISCUSSION OF THE LITHOSTRATIGRAPHIC DESCRIPTIONS

The results of the lithostratigraphic description of the monitored boreholes (BHA, BHC and BHD) are shown in Tables 2 to 4 and in Figure 3. Figure 3 is a north-south transect across the site, incorporating both the monitored and non-monitored boreholes and test pit TP1.

The full sequence of sediments recorded in the boreholes comprises:

*Made Ground* – widely present

*Langley Silt* – only locally present towards the southeast of the site

*Kempton Park Gravel* – widely present

### 4.1 Kempton Park Gravel

Overlying the London Clay/Lambeth Group bedrock at the site was a unit of sandy, in places clayey gravel, reached in all the boreholes and in test pit TP1. The surface of this unit lies at between ca. 0.5 and 1.5m OD across the site, recorded in the monitored boreholes (BHA, BHC and BHD) at 0.48, 1.35 and 0.74m OD respectively. The Gravel appears to rise towards the south of the site, recorded at its highest towards the southeast in borehole BHC and test pit TP1 (1.55m OD). However, it is of note that in all but one of the geotechnical interventions (trial pit TP1) the Gravel is directly overlain by Made Ground, and it is unclear to what extent the Gravel surface has been truncated.

On the basis of the elevation of this unit, it is considered to represent the 'Upper Floodplain' terrace of the Kempton Park Gravel (Gibbard, 1994), deposited during the Middle to Late Devensian (80-30,000 years before present). This unit comprises the sands and gravels of a high-energy braided river system which, while it was active would have been characterised by longitudinal gravel bars and intervening low-water channels in which finer-grained sediments might have been deposited. These deposits would most likely have represented an area of higher, drier ground during the early Holocene, relatively close to the edge of the floodplain mapped less than ca. 100m to the north.

The undulations in the surface of the Gravel here are consistent with those that would be expected on the floor of the valley during the deposition of the Gravel, with longitudinal gravel bars and intervening low-water channels as described above. The surface of the Gravel at Mandela Way, ca. 1km to the northwest and closer to the terrace edge was recorded at slightly lower elevations of between ca. -1 and 0.5m OD, overlain by a thin sequence of alluvium and in places, peat (Young, 2017). The deeper Gravel topography and thicker alluvial sequences of Bermondsey Lake lie ca. 1.5km to the southeast of the site; here, the Gravel surface has been recorded at between -1.0 and -5.1m OD, the gravel falling from the western area of the Bramcote Green site towards the north (-2.2m OD) and east (-5.1m OD) (Thomas & Rackham, 1996). Similar elevations for the gravel surface have been recorded within the Bankside Channel towards the northeast, where the gravel has been recorded as low as -4.55m OD (see Young, 2015).

### 4.2 Langley Silt (Brickearth)

A horizon of slightly sandy silt was recorded overlying the Gravel in one of the geotechnical interventions (trial pit TP1) at between 1.85 and 1.55m OD. This unit was not observed in the other geotechnical boreholes, including those monitored by Quaternary Scientific. It is interpreted as a possible remnant of the Late Devensian Langley Silt ('brickearth'), an often substantially reworked (by colluvial/alluvial processes) aeolian, periglacial deposit of wind-blown silt and clay. This unit appears to be limited only to the southeastern corner of the site, where the Gravel can be identified above ca. 1.5m OD, and is not considered to be widely present. Indeed, no Langley Silt was identified less than 5m to the north in borehole BHC. Elsewhere on the site where this unit might have been present, it seems likely that it has been truncated by the Made Ground.

#### **4.5 Made Ground**

Between ca. 1 and 3m of Made Ground caps the sequence across the site, with greater thicknesses generally recorded towards north and west (see Figure 3). In trial pit TP1 the Made Ground directly overlies the possible Langley Silt, whilst in the remainder of the geotechnical boreholes it directly overlies the Gravel. In boreholes BHC the basal units in the Made Ground appear to incorporate the deposits of the underlying Gravel, making differentiation between these units difficult in places.

Figure 3: North-south transect of monitored boreholes across the Ruby Triangle site.

Table 2: Lithostratigraphic description of borehole BHA, Ruby Triangle, Southwark

Depth (m OD)	Depth (m bgl)	Description	Stratigraphic group
3.28 to 1.68	0.00 to 1.60	Concrete hardstanding over Made Ground of gravel, brick, pottery, wood and glass in a brown silty clay matrix.	MADE GROUND
1.68 to 0.78	1.60 to 2.50	Brick, pottery and glass in an orangey grey matrix of sand, gravel, silt and clay.	
0.78 to 0.48	2.50 to 2.80	Brick, pottery and glass in a matrix of sandy gravel.	
0.48 to 0.28	2.80 to 3.00	Gg2 Ga1 As1; orangey brown clayey, sandy gravel. Clasts are flint, up to 30mm in diameter, sub-angular to well-rounded.	KEMPTON PARK GRAVEL

Table 3: Lithostratigraphic description of borehole BHC, Ruby Triangle, Southwark

Depth (m OD)	Depth (m bgl)	Description	Stratigraphic group
3.85 to 2.85	0.00 to 1.00	Concrete/tarmac hardstanding over brick, pottery and glass in a matrix of sandy gravel.	MADE GROUND
2.85 to 2.05	1.00 to 1.80	Brick, pottery, shell and glass in a matrix of brown silty sand.	
2.05 to 1.85	1.80 to 2.00	Ga3 Ag1 Gg+; dark brown silty sand with occasional gravel clasts. Possibly reworked. Colour suggests leaching from unit above. Diffuse contact in to:	
1.85 to 1.35	2.00 to 2.50	Ga3 Gg1 Ag+; dark brown gravelly sand with a trace of silt. Possibly reworked. Colour suggests leaching from unit above. Diffuse contact in to:	
1.35 to 0.85	2.50 to 3.00	Gg2 Ga2; orange sand and gravel. Clasts are flint, sub-angular to well-rounded, average diameter 20mm.	KEMPTON PARK GRAVEL

Table 4: Lithostratigraphic description of borehole BHD, Ruby Triangle, Southwark

Depth (m OD)	Depth (m bgl)	Description	Stratigraphic group
2.44 to 0.74	0.00 to 1.70	Concrete hardstanding over brown silty sand matrix with inclusions of gravel, brick and pottery.	KEMPTON PARK GRAVEL
0.74 to 0.64	1.70 to 1.80	Ga4 Gg+; orange sand with occasional gravel clasts. Diffuse contact in to:	
0.64 to 0.44	1.80 to 2.00	Gg2 Ga2; dark brownish orange sand and gravel. Clasts are flint, sub-angular to well-rounded, average diameter 20mm. Diffuse contact in to:	
0.44 to -0.06	2.00 to 2.50	Gg3 Ga1; dark brownish orange sandy gravel. Clasts are flint, sub-angular to well-rounded, average diameter 30mm.	



## 5. CONCLUSION & RECOMMENDATIONS

The aim of the geoarchaeological investigations at the site were: (1) to clarify the nature of the sub-surface stratigraphy across the site; and (2) to clarify the nature, depth, extent and likely date of any alluvium or Langley Silt deposits. In order to address these aims, a total of three geotechnical boreholes were monitored on-site, with the geotechnical logs from the remaining interventions also examined, in order to produce a basic deposit model of the major stratigraphic units at the site.

The Quaternary sequence overlying the bedrock at the site consists predominantly of the Kempton Park Gravel, overlain in one sequence by a thin (0.3m thick) horizon of possible Langley Silt, and elsewhere, Made Ground. The surface of the Gravel lies at between ca. 0.5 and 1.5m OD across the site, generally rising towards the south/southeast to a level of ca. 1.5m OD. The unit interpreted as a possible remnant of the Langley Silt was recorded in one geotechnical intervention, overlying the higher Gravel surface towards the southeast of the site, at between 1.85 and 1.55m OD. The Langley Silt was not observed in any of the other geotechnical boreholes, where Made Ground directly overlies the Gravel, in some places perhaps truncating the natural sequence. It would therefore seem likely that past post-depositional impacts has been severe at the site as a result of several phases of redevelopment (see CgMs, 2017).

On the basis of the limited presence and thin nature of the Langley Silt at the site, and the absence of any alluvium, no further environmental archaeological or geoarchaeological interventions are recommended. The elevation of the Gravel recorded at the site and the location of the site not far from the floodplain edge indicates that the site does appear to have the potential for archaeological evidence or remains to be present. However, it is significant that across the majority of the site the Made Ground directly overlies the Gravel, and in places this may have truncated the natural sequence, thus having a significant negative impact on its archaeological potential. The Gravel surface is of similar elevations to that at the B&Q Depot, Old Kent Road (Bird *et al.*, 1991; Sidell *et al.*, 2002) and 21-35 Marlborough Grove (ELO10576-7, TQ 34205 78099; MLO59503, TQ3420 7809), where flint scatters and hearth deposits were recorded on weathered sand deposits overlying the Kempton Park Gravel at between ca. 0.8 and 1.2m OD.

## 6. REFERENCES

- Bird, D.G., Crocker, G. and McCracken, J.S. (1991-2) Archaeology in Surrey 1990. *Surrey Archaeological Collections* 81: 147-168.
- Branch, N.P., Canti, M., Clark, P. and Turney, C. (2005) *Environmental archaeology: theoretical and practical approaches*. Book in series: *Key Issues in Environmental Change* (Ed.: John A Matthews). 2005. London: Hodder Arnold.
- Core Geotechnics Ltd (2014), *Phase 2 Ground Investigation, Mandela Way, Southwark, London*. Core Geotechnics Ltd Unpublished Report.
- Cowan, C. Seeley, F., Wardle, A., Westman, A. and Wheeler, L. (2009) *Roman Southwark settlement and economy, excavations in Southwark 1973-91*, MoLA Monograph 42.
- CgMs (2017) Archaeological Desk Based Assessment Ruby Triangle Old Kent Road Southwark. *CgMs Consulting Unpublished Report, December 2017*.
- Gibbard, P.L. (1994) *The Pleistocene History of the Lower Thames Valley*. Cambridge University Press, Cambridge.
- Jones, H. (1991) *Excavations at the former Bricklayer's Arms Railway depot site*. Unpublished MoLAS Report, July 1989, updated May 1991.
- Oxford Archaeology (2011) *8 Lynton Road. Southwark, Greater London. Archaeological Evaluation Report*. Oxford Archaeology Unpublished Report.
- RPS (2017) *Written Scheme of Investigation for an Archaeological Evaluation and Mitigation at Former Car Pound, Mandela Way, Southwark*. RPS Unpublished Report, November 2017.
- Sidell, J., Wilkinson, K., Scaife, R. & Cameron, N. (2000) *The Holocene Evolution of the London Thames*: MoLAS Unpublished Report.
- Sidell, J., Cotton, J., Rayner, L. & Wheeler, L. (2002) *The prehistory and topography of Southwark and Lambeth*. MoLAS Monograph 14.
- Thomas, C. and Rackham, J. (1996) Bramcote Green, Bermondsey: a Bronze Age Trackway and Palaeo-Environmental Sequence. *Proceedings of the Prehistoric Society* **61**: 221-253.
- Thompson, A., Westman, A., Dyson, T. (eds.) (1998). Archaeology in Greater London 1965 - 1990: a guide to records of excavations by the Museum of London. *The Archaeological Gazetteer Series*, **2**. London: Museum of London.

Tröels-Smith, J. (1955) Karakterisering af løse jordater (Characterisation of unconsolidated sediments), *Danm. Geol. Unders.*, **Ser IV 3**, 73.

Young, D.S. (2015) 61 Southwark Street, London Borough of Southwark (Site Code: SWS15): Geoarchaeological Fieldwork and Deposit Model Report. *Quaternary Scientific (QUEST) Unpublished Report March 2015; Project Number 254/14*.

Young, D.S. (2017) Former Car Pound, Mandela Way, London Borough of Southwark Geoarchaeological Deposit Model Report. *Quaternary Scientific (QUEST) Unpublished Report December 2017; Project Number 158/17*.

## 7. APPENDIX 2: OASIS

**OASIS ID: quaterna1-309791**

### Project details

Project name	Ruby Triangle, Southwark
Short description of the project	<p>A programme of geoarchaeological monitoring was carried out at the Ruby Triangle site in order to (1) to clarify the nature of the sub-surface stratigraphy across the site; and (2) to clarify the nature, depth, extent and possible date of any alluvium or Langley Silt deposits. In order to address these aims, a total of three geotechnical boreholes were monitored on-site, with the geotechnical logs from the remaining interventions also examined, in order to produce a basic deposit model of the major stratigraphic units at the site. The deposits overlying the bedrock consist predominantly of the Kempton Park Gravel, overlain in one sequence by a thin (0.3m thick) horizon of possible Langley Silt, and elsewhere, Made Ground. The surface of the Gravel lies at between ca. 0.5 and 1.5m OD across the site, generally rising towards the south/southeast to a level of around 1.5m OD. Overlying the higher Gravel surface towards the southeast of the site a unit interpreted as a possible remnant of the Langley Silt was recorded in one geotechnical intervention at between 1.85 and 1.55m OD. The Langley Silt was not observed in any of the other geotechnical boreholes; Made Ground directly overlies the Gravel elsewhere, in some places possibly truncating the natural sequence. On the basis of the limited presence and thin nature of the Langley Silt at the site, no further geoarchaeological interventions are recommended. The elevation of the Gravel, and the location of the site not far from the floodplain edge, indicates that there is some potential for archaeological evidence or remains to be present. The Gravel surface is of similar elevations to that at the B and Q Depot, Old Kent Road (Bird et al., 1991; Sidell et al., 2002) and Marlborough Grove (MAG93), where flint scatters and hearth deposits were recorded on weathered sand deposits overlying the Kempton Park Gravel at between ca. 0.8 and 1.2m OD.</p>
Project dates	Start: 01-12-2017 End: 20-02-2018
Previous/future work	No / Not known
Any project codes	associated reference codes RTL18 - Sitecode



Type of project      Environmental assessment

Survey techniques   Landscape

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### Project location

Country                England

Site location        GREATER LONDON SOUTHWARK BERMONDSEY ROTHERHITHE  
AND SOUTHWARK Ruby Triangle

Postcode             SE15 1LE

Site coordinates    TQ 3460 7785 51.483063388628 -0.061323025527 51 28 59 N 000 03 40  
W Point

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### Project creators

Name                 of Quaternary Scientific (QUEST)  
Organisation

Project              brief CgMs Consulting  
originator

Project              design D.S. Young  
originator

Project                D.S. Young  
director/manager

Project supervisor   D.S. Young

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### Project archives

Physical    Archive No  
Exists?

Digital      Archive No  
Exists?

Paper Contents      "Environmental", "Stratigraphic"

Paper                Media "Report"  
available

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Entered by            Daniel Young (d.s.young@reading.ac.uk)

Entered on            20 February 2018