

FORMER CAR POUND, MANDELA WAY, LONDON BOROUGH OF SOUTHWARK

Geoarchaeological Deposit Model Report

NGR: TQ 3355 7854

Date: 21st December 2017

Site Code: MDE17

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DOCUMENT HISTORY:

REVISION	DATE	PREPARED BY	SIGNED	APPROVED BY	SIGNED	REASON FOR ISSUE
v1	20/12/17	D.S. Young		C.R. Batchelor		First edition
v2	21/12/17	D.S. Young		C.R. Batchelor		Amendments to text

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1. NON-TECHNICAL SUMMARY

A programme of geoarchaeological fieldwork and deposit modelling was carried out at the Mandela Way site in order to (1) clarify the nature of the sub-surface stratigraphy, and (2) clarify the nature, depth, extent and possible date of any alluvium and organic/peat deposits. The results of the deposit modelling indicate that the sediments recorded at the site are similar to those recorded elsewhere in the Lower Thames Valley, particularly those overlying the Gravel towards the floodplain edge.

The surface of the Gravel at Mandela Way is recorded at between -0.96 and 0.01m, with the highest Gravel surfaces recorded towards the centre of the site, from where it falls slightly to the north, east and south. The Gravel is overlain in most places by a relatively thin layer of alluvial deposits, between ca. 0.5 and 1.0m in thickness, which in two records towards the north of the site includes a thin layer of peat, recorded between 0.01 and 0.17m OD in MWQBH1, and between 0.02 and 0.12m OD in MWTP5. Although it has the potential to provide information on the environmental history of the site and its environs, the peat horizon recorded at the Mandela Way is thin (<0.16m), and only locally present. A limited programme of radiocarbon dating of the peat in borehole MWQBH1 is therefore recommended; should the age of the peat be consistent with other records in Southwark, no further environmental archaeological assessment will be recommended. The elevation of the Gravel recorded at the site indicates that the site does appear to contain the potential for archaeological evidence or remains to be present; however, it is of note that the Gravel surface is not as high as that at the B&Q Depot, Old Kent Road (Bird *et al.*, 1991; Sidell *et al.*, 2002) or 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.

2. INTRODUCTION

2.1 Site context

This report summarises the findings arising out of the geoarchaeological fieldwork and deposit modelling undertaken by Quaternary Scientific (University of Reading) in connection with the proposed development of land at the Former Car Pound, Mandela Way, London Borough of Southwark (National Grid Reference: centred on TQ 33555 78546; Figures 1 & 2). Quaternary Scientific were commissioned by RPS Planning & Development to undertake the geoarchaeological investigations. The site is located close to the boundary between the floodplain of the estuarine Thames and the higher, drier ground of the gravel terrace, where the British Geological Survey (BGS) (<http://mapapps.bgs.ac.uk/geologyofbritain>) show the superficial geology as the early to middle Devensian Kempton Park Gravel. The BGS shows the underlying geology at the site as the Palaeogene Lambeth Group bedrock, described as 'Clay, Silt and Sand'.

The site is a rectangular plot covering an area of approximately 0.73 hectares, bounded to the south by Marcia Road, to the east by the B203, and to the north and west by industrial units. The site is located within the Archaeological Priority Zone of Bermondsey Lake, as defined by the London Borough of Southwark. The site lies to the west of a large area of lower-lying gravel topography known as Bermondsey Lake (most likely a lake formed within a former channel; Thomas & Rackham, 1996; Sidell *et al.*, 2002). Within this feature at Bramcote Green, ca. 1.5km to the east (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).

Bermondsey Lake forms part of the network of Late Devensian/Early Holocene channels and elevated gravel islands that characterises this area of Southwark. 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 below and Cowan *et al.*, 2009). Similar elevations for the gravel surface to those within the area of Bermondsey Lake 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). On the basis of the elevation of the gravel surface recorded within a recent geotechnical investigation at the site by Core Geotechnics Ltd (2014), the site most likely lies on the edge of the higher, drier ground of the Kempton Park terrace, and alluvial sediments associated with the floodplain of the River Thames appear to have accumulated here. A total of four boreholes and five test pits were put down during the geotechnical investigations at the site; these interventions recorded a sequence of either Lambeth Group or London Clay bedrock, overlain by sandy gravel equivalent to either the Shepperton or Kempton Park Gravel of Gibbard (1994). The surface of the Gravel is recorded at between 0.01 (BH4) and -0.96m OD (BH1). In six of the nine interventions (BH3, BH4, TP2, TP3, TP4, TP5) the Gravel is overlain by a thin horizon of alluvium,

generally present at elevations of between ca. 0.65 and 0.02m OD. In TP5 the Holocene alluvium includes a thin horizon of peat at between 0.12 and 0.02m OD. The sequence is capped across the site by between 1.6 and 2.7m of Made Ground; in two sequences the Made Ground directly overlies the Gravel (BH1, BH2), and in TP1 only Made Ground was recorded to the maximum depth of the Trial Pit at 2.3m below ground level.

2.2 Palaeoenvironmental and archaeological significance

On the basis of the existing geotechnical records, the nature, character and extent of the surviving alluvial sequence at the Mandela Way 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.

Organic-rich sediments (in particular peat) have the potential to provide a detailed reconstruction of past environments on both the wetland and dryland. In particular, they provide the potential to increase knowledge and understanding of the interactions between hydrology, human activity, vegetation succession and climate. Significant vegetation changes include the Mesolithic/Neolithic decline of elm woodland, the Neolithic colonisation and decline of yew woodland; the Late Neolithic/Early Bronze Age growth of elm on Peat, and the general decline of wetland and dryland woodland during the Bronze Age. Such investigations are carried out through the assessment/analysis of palaeoecological remains (e.g. pollen, plant macrofossils & insects) and radiocarbon dating. Finally, areas of high gravel topography, soils and peat represent potential areas that might have been utilised or even occupied by prehistoric people, evidence of which may be preserved in the archaeological (e.g. features and structures) and palaeoenvironmental record (e.g. changes in vegetation composition).

Significantly, within the area of Bermondsey Lake and only ca. 200m to the east at the Bricklayers 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. In addition, other wooden structures associated with the peat and dated to the Bronze Age have been identified in this area, including ca. 1.5km to the east at Bramcote Green (Thomas & Rackham, 1996). At this site, 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). Around 1km to the southeast at the B&Q Depot, Old Kent Road (Bird et al., 1991; Sidell et al., 2002) 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, whilst at Marlborough Grove (MAG93) an assemblage of possible Mesolithic or Neolithic worked flints was recorded, again on weathered sand overlying the Kempton Park Gravel (Sidell et al., 2002).

The underlying Gravel topography appears to rise to the north and west of the site, forming the edge of the Holocene floodplain. Possible alluvial sediments were recorded to the northwest of the present site at Coopers Road, although these sediments did not appear to be present in evaluation at 8 Lynton Road (Oxford Archaeology, 2011). At the Tate Collection Centre on Mandela Way (Site Code MEW07) four boreholes were drilled across the site and monitored. Boreholes BH1, BH3 and BH4 demonstrated that a large part of the site had been truncated by modern deposits down to the level of the floodplain gravels. This truncation extended to ca. 3m below ground level (bgl) to between -0.3 and 0.7m OD. Only within Borehole BH2 was a unit of alluvium recorded above the floodplain gravels. This deposit consisted of a greyed clay silt, considered to represent a channel marginal or marsh environment. This unit was present at ca. 1.65m bgl at ca. 0.7m OD, and measured 0.45m in thickness. Given the apparent inorganic nature of this deposit and the extent to which it survives, it is considered to be of limited palaeoenvironmental potential. Evidence from archaeological works to the north at 30-32 Dunton Road (Site Code DUN91 and Lynton Road (Oxford Archaeology, 2011) would indicate that the underlying Gravel topography is rising here, forming the edge of the floodplain. The archaeological potential of the site is discussed in more detail in RPS (2017).

2.3 Aims and objectives

Further borehole records are required in order to enhance our understanding of the sub-surface stratigraphy of the Mandela Way site, and to assess its palaeoenvironmental 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 date of any alluvium and organic/peat deposits;
3. To investigate whether the sequences contain any artefact or ecofact evidence for prehistoric or historic human activity;
4. To investigate whether the sequences contain any evidence for natural and/or anthropogenic changes to the landscape (wetland and dryland), including those related to sea level change;
5. To integrate the new geoarchaeological record with other recent work in the local area for publication in an academic journal.

In order to address the first two of these aims, four boreholes were put down at the site and a programme of geoarchaeological deposit modelling undertaken, incorporating existing geotechnical and geoarchaeological data from the site and the wider area.

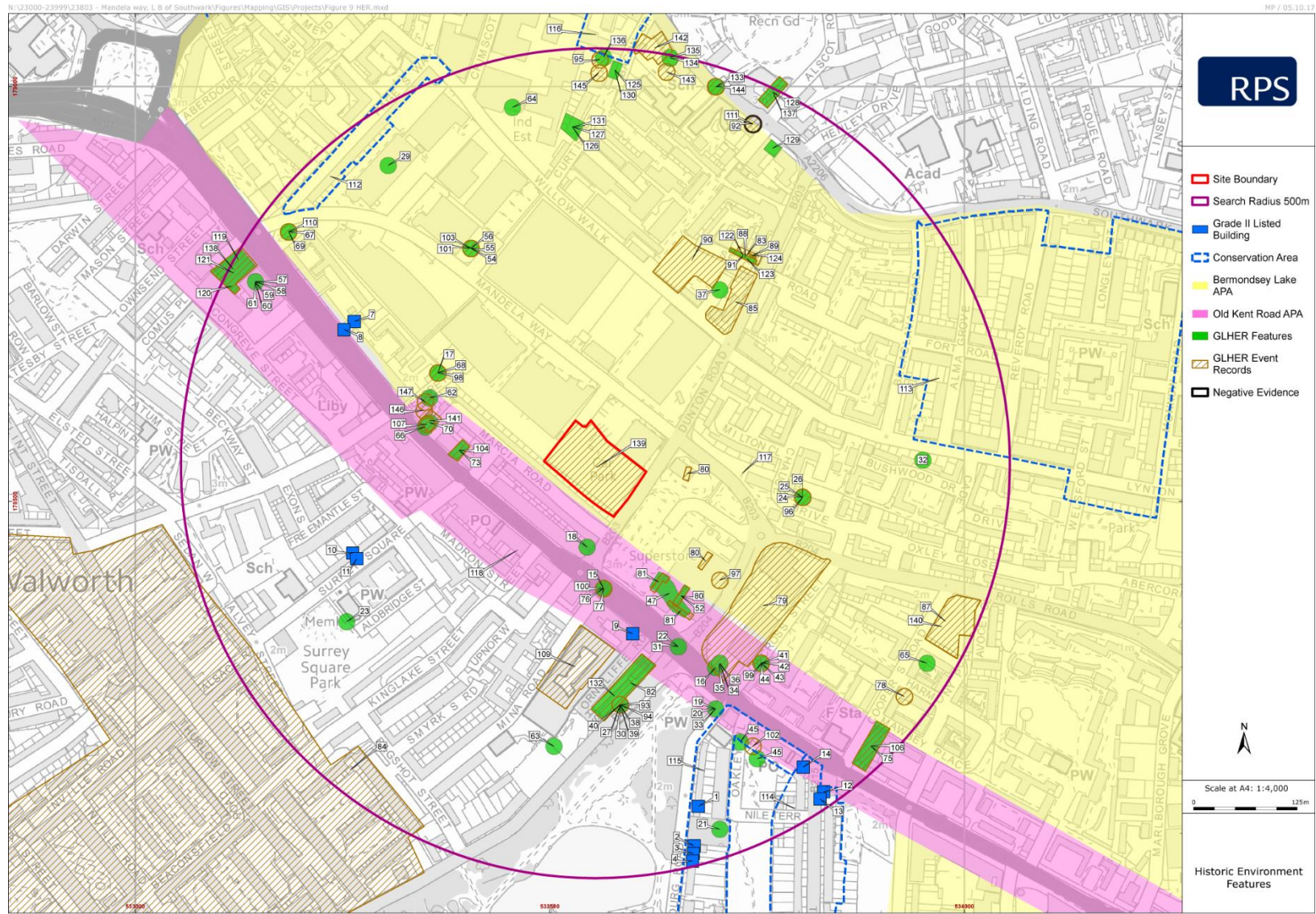


Figure 1: Location of the Former Car Pound, Mandela Way, London Borough of Southwark site, with Greater London Historic Environment data (figure provided by RPS, 2017). Site details shown in Appendix 1.

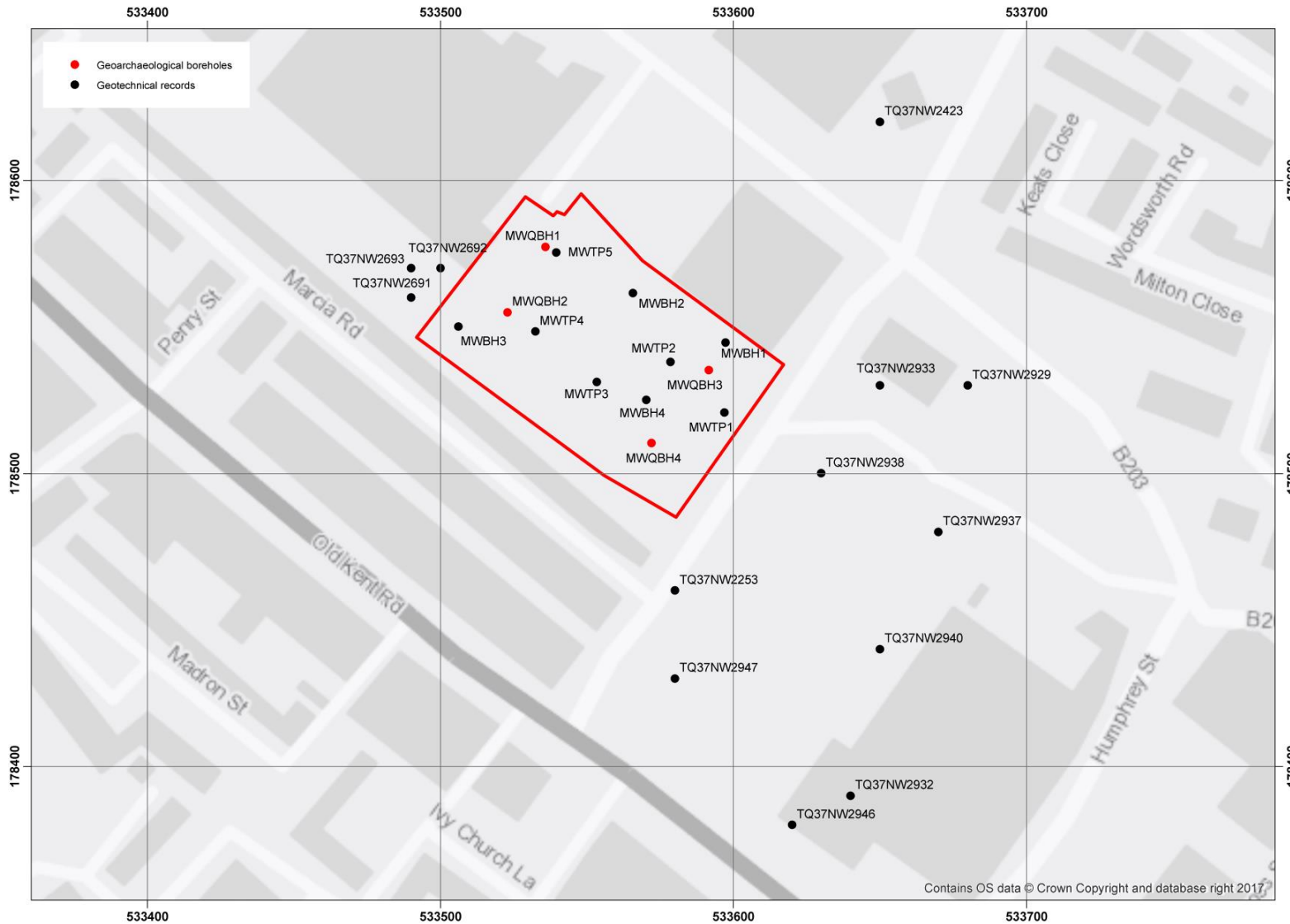


Figure 2: Location of the new geoaerchaeological boreholes (MW-QBH1 to QBH4) at the Former Car Pound, Mandela Way, London Borough of Southwark, and existing geotechnical records from the site and within the wider area (see Table 1).

3. METHODS

3.1 Field investigations

Four geoarchaeological borehole (boreholes MW-QBH1 to MW-QBH4) were put down at the site in December 2017 (Figure 2). The borehole core samples were recovered using an Eijkelkamp window sampler and gouge set using an Atlas Copco TT 2-stroke percussion engine. This coring technique is a suitable method for the recovery of continuous, undisturbed core samples and provides sub-samples suitable for not only sedimentary and microfossil assessment and analysis, but also macrofossil analysis. The borehole locations were obtained using a Leica Differential GPS (see Table 1).

3.2 Lithostratigraphic descriptions

The lithostratigraphy of the core samples 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 the boreholes are displayed in Tables 2 to 5.

3.3 Deposit modelling

The deposit model, incorporating the present site and a limited number of available boreholes from the wider area, was based on a review of 26 geotechnical and geoarchaeological records, incorporating the four new geoarchaeological boreholes, nine geotechnical logs provided by Core Geotechnics Ltd (2014) and thirteen British Geological Survey (BGS) archive boreholes (<http://mapapps.bgs.ac.uk/geologyofbritain/home.html>) (see Figure 2). Sedimentary units from the boreholes were classified into five groupings: (1) Gravel, (2) Lower Alluvium, (3) Peat, (4) Upper Alluvium and (5) Made Ground. The classified data for groups 1-5 were then input into a database with the RockWorks 16 geological utilities software. Models of surface height were generated for the Gravel (Figure 3), Lower Alluvium (Figure 4), Peat (Figure 5) and Upper Alluvium (Figure 7). Thickness of the Peat (Figure 6), combined Holocene alluvial sequence (Figure 8) and Made Ground (Figure 9) were also modelled (also using a nearest neighbour routine).

Although the boreholes at the present site are well distributed over the area of investigation, the reliability of the models generated using RockWorks is variable for the wider area. In general, reliability improves from outlying areas where the models are largely supported by scattered archival records towards the core area of commissioned boreholes within the site itself. In addition, because of the 'smoothing' effect of the modelling procedure, the modelled levels of stratigraphic contacts may differ slightly from the levels recorded in borehole logs and section drawings. As a consequence of this the modelling procedure has been manually adjusted so that only those areas for which sufficient stratigraphic data is present will be modelled. In order to achieve this, a

maximum distance cut-off filter equivalent to a 50m radius around each record is applied to all deposit models. Finally, it is important to recognise that multiple sets of boreholes are represented, put down at different times and recorded using different descriptive terms and subject to differing technical constraints in terms of recorded detail including the exact levels of the stratigraphic boundaries.

Table 1: Spatial data for the new geoarchaeological boreholes and existing geotechnical records used in the deposit model at the Former Car Pound, Mandela Way, London Borough of Southwark.

Name	Easting	Northing	Elevation
<i>New geoarchaeological boreholes</i>			
MWQBH1	533535.76	178577.30	1.67
MWQBH2	533522.90	178554.98	1.98
MWQBH3	533591.58	178535.28	1.94
MWQBH4	533572.07	178510.31	2.77
<i>Existing geotechnical records (Core Geotechnics Ltd, 2014)</i>			
MWBH1	533597.36	178544.63	1.74
MWBH2	533565.67	178561.54	1.72
MWBH3	533506.08	178550.05	2.58
MWBH4	533570.27	178525.10	2.41
MWTP1	533596.87	178520.83	2.30
MWTP2	533578.48	178538.06	2.02
MWTP3	533553.36	178531.17	2.50
MWTP4	533532.35	178548.41	2.08
MWTP5	533539.57	178575.33	1.72
BGS archive boreholes (http://mapapps.bgs.ac.uk/geologyofbritain)			
TQ37NW2691	533490.00	178560.00	1.60
TQ37NW2692	533500.00	178570.00	1.65
TQ37NW2693	533490.00	178570.00	1.55
TQ37NW2423	533650.00	178620.00	0.85
TQ37NW2933	533650.00	178530.00	1.45
TQ37NW2938	533630.00	178500.00	2.30
TQ37NW2253	533580.00	178460.00	2.50
TQ37NW2947	533580.00	178430.00	2.80
TQ37NW2929	533680.00	178530.00	1.55
TQ37NW2937	533670.00	178480.00	2.40
TQ37NW2940	533650.00	178440.00	2.15
TQ37NW2932	533640.00	178390.00	2.45
TQ37NW2946	533620.00	178380.00	2.65

4. RESULTS, INTERPRETATION & DISCUSSION OF THE LITHOSTRATIGRAPHIC DESCRIPTIONS & DEPOSIT MODELLING

The results of the lithostratigraphic description of boreholes MWQBH1 to MWQBH4 are shown in Tables 2 to 5, with the results of the deposit modelling displayed in Figures 3 to 9. Figures 3 to 9 are surface elevation and thickness models for each of the main stratigraphic units recorded at the site and in the wider area. The results of the deposit modelling indicate that the number and spread of the logs is sufficient to permit modelling with a reasonable level of certainty across the entire area of site (Figure 2).

The full sequence of sediments recorded in the boreholes comprises:

Made Ground – widely present

Upper Alluvium – recorded towards the north and west of the site

Peat – locally present in the northern area of the site

Lower Alluvium – locally present

Pleistocene Gravel – widely present

4.1 Pleistocene 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 that penetrated to sufficient depth, but not recorded in the shallow test pits. On the basis of elevation alone, the age of this unit is uncertain, as it may represent the 'Upper Floodplain' terrace of the Kempton Park Gravel (Gibbard, 1994), deposited during the Early to Middle Devensian (80-30,000 years before present), or the 'Lower Floodplain' terrace of the Late Devensian Shepperton Gravel (15-10,000 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, although given their relatively low elevation towards the edge of the terrace, are likely to have been inundated by floodplain sediments during the Middle-Late Holocene.

The surface of the Gravel at Mandela Way (see Figure 3) is recorded at between -0.96 (MWBH1) and 0.01m OD (MWBH4). In geoarchaeological boreholes MWQBH1 to QBH4 it is recorded at -0.23, -0.28, -0.36 and -0.13m OD respectively, although in MWQBH3 Made Ground directly overlies a probably truncated Gravel surface. The highest Gravel surfaces appear to be record towards the centre of the site (0.01 to -0.5m OD), from where it falls slightly to the north, east and south, where it is recorded at between ca. -0.8 and -1.2m OD. 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 deeper Gravel topography and thicker alluvial sequences of Bermondsey

Lake lie to the east 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 Lower Alluvium

The sandy, silty alluvial deposits recorded towards the base of selected boreholes (MWQBH1, QBH2, QBH4, BH3, BH4 and TP5), resting directly on the Gravel, are described here as the Lower Alluvium. The surface of this unit is recorded at between 0.78 (MWQBH2) and 0.02m OD (TP5) (Figure 4). The deposits of the Lower Alluvium are predominantly silty, tending to become increasingly coarse (sandy) downward in most sequences. The Lower Alluvium is most likely indicative of deposition Late Devensian/Early Holocene, as the main course of the Thames became confined to a single meandering channel. During this period, the surface of the Gravel was progressively buried beneath the sandy and silty flood deposits of the river. At the Mandela Way site, the sand-rich nature of this deposit probably represents fluvial reworking of the underlying Gravel, most likely during the Late Devensian or Early Holocene but perhaps as late as the Middle Holocene.

The often richly-organic nature of the Lower Alluvium elsewhere suggests that this was a period during which the valley floor was occupied by a network of actively shifting channels, with a drainage pattern on the floodplain that was still largely determined by the relief on the surface of the underlying Shepperton Gravel, on which it is more frequently recorded.

4.3 Peat

A thin horizon of Peat was recorded overlying the Lower Alluvium in two records (MWQBH1 and TP5), confined to the northern area of the site. This unit was recorded at between 0.01 to 0.17m OD in MWQBH1, and between 0.02 and 0.12m OD in MWTP5 (see Figures 5 and 6). In MWQBH1 this unit is described as a well humified, silty peat. Beyond the margins of the site, peat was also identified in boreholes TQ37NW2933 and TQ37NW2253 to the south and east. Significantly, this unit is indicative of a transition towards semi-terrestrial (marshy) conditions, supporting the growth of either saltmarsh, sedge fen/reed swamp and/or wetland woodland communities. Such semi-terrestrial conditions may have represented former land surfaces that might have been utilised by prehistoric communities. Assuming that 1m of peat represents 1000 years of peat formation (a typical figure in fen peatlands), the peat may represent up to about 100 years of accumulation in these conditions.

Within the area of Bermondsey Lake, to the southeast of the present site at Bramcote Green (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). Closer to the present site, peat dated to the Late Bronze Age was recorded at the Bricklayers Arms Railway Yard, Rolls Road (MLO17790), whilst peat has also been recorded within the alluvium at the Bricklayers Arms site off Mandela Way (MLO23477), at Humphrey Street (MLO60029), Willow Walk (MLO63763) and Coopers Road (MLO75374) (see RPS, 2017 and Figure 1).

4.4 Upper Alluvium

The silty clay Upper Alluvium was recorded in selected sequences within the area of the site, generally towards the centre (MWTP3 and TP4) and north (MWQBH1). The surface of the Alluvium (Figure 7) is relatively even, lying at between 0.38 (MWTP4) and 0.77m OD (MWQBH1). The sediments of the Upper Alluvium are indicative of deposition within low energy fluvial and/or semi-aquatic conditions during the Holocene. The high mineral content of the sediments may reflect increased sediment loads resulting from intensification of agricultural land use from the later prehistoric period onward, combined with the effects of rising sea level.

The combined Holocene alluvial sequence, incorporating the Lower Alluvium, Peat and Upper Alluvium, is generally recorded in thicknesses of between ca. 0.5 and 1m across the site (Figure 8).

4.5 Made Ground

Between ca. 1 and 3m of Made Ground caps the sequence across the site, with greater thicknesses generally recorded towards the east (see Figure 9).

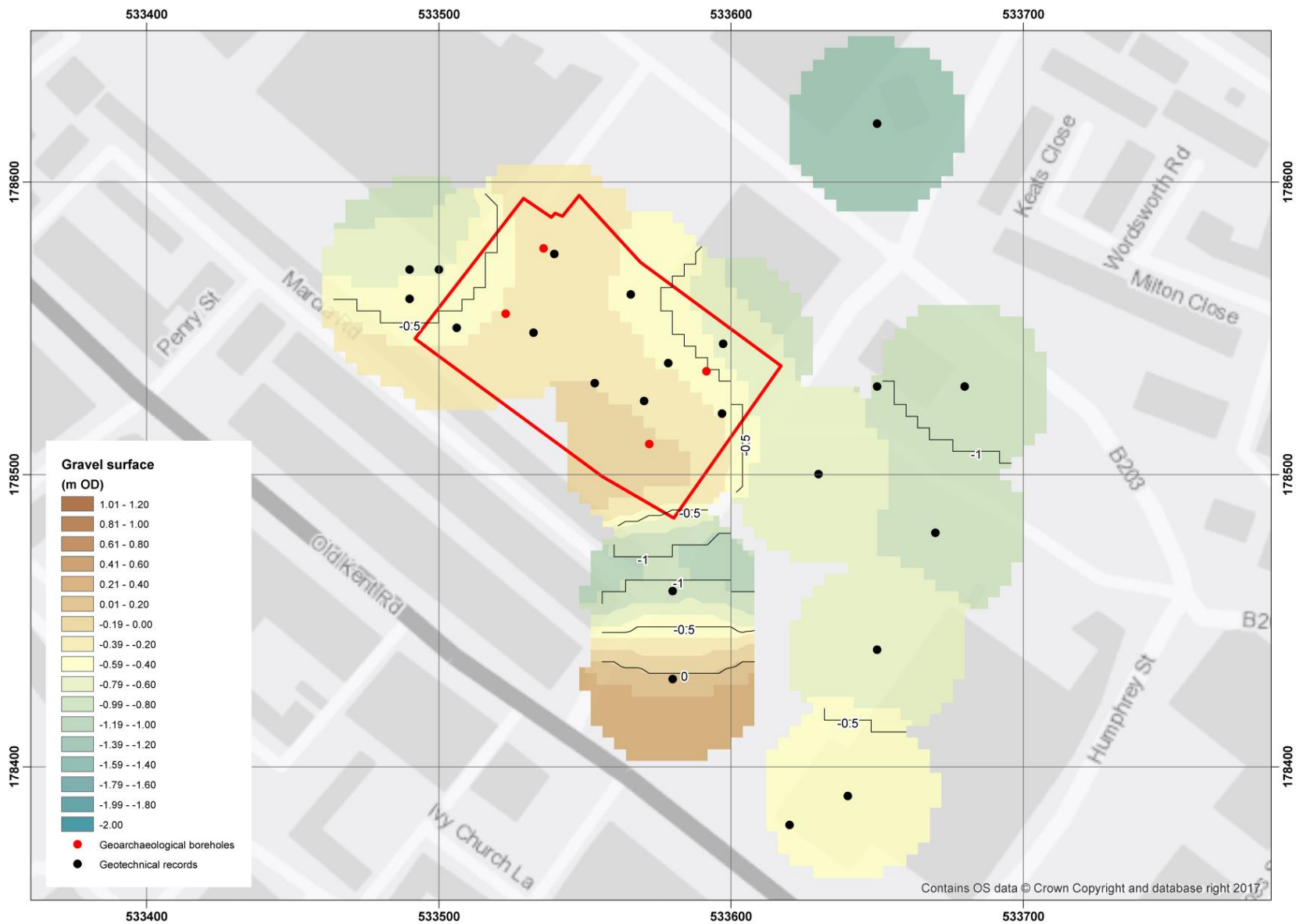


Figure 3: Top of the Gravel (m OD) (site outline in red).

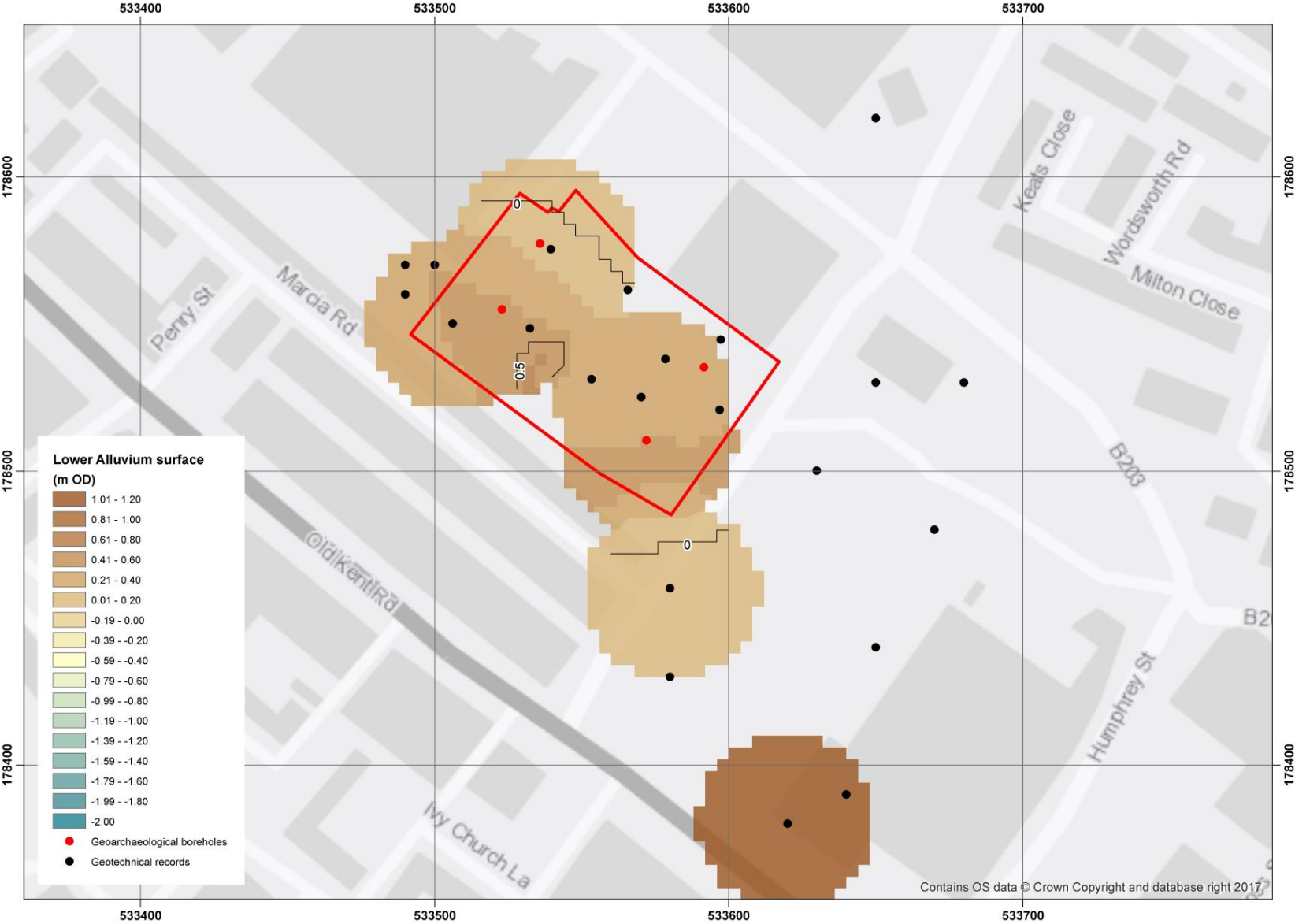


Figure 4: Top of the Lower Alluvium (m OD) (site outline in red).

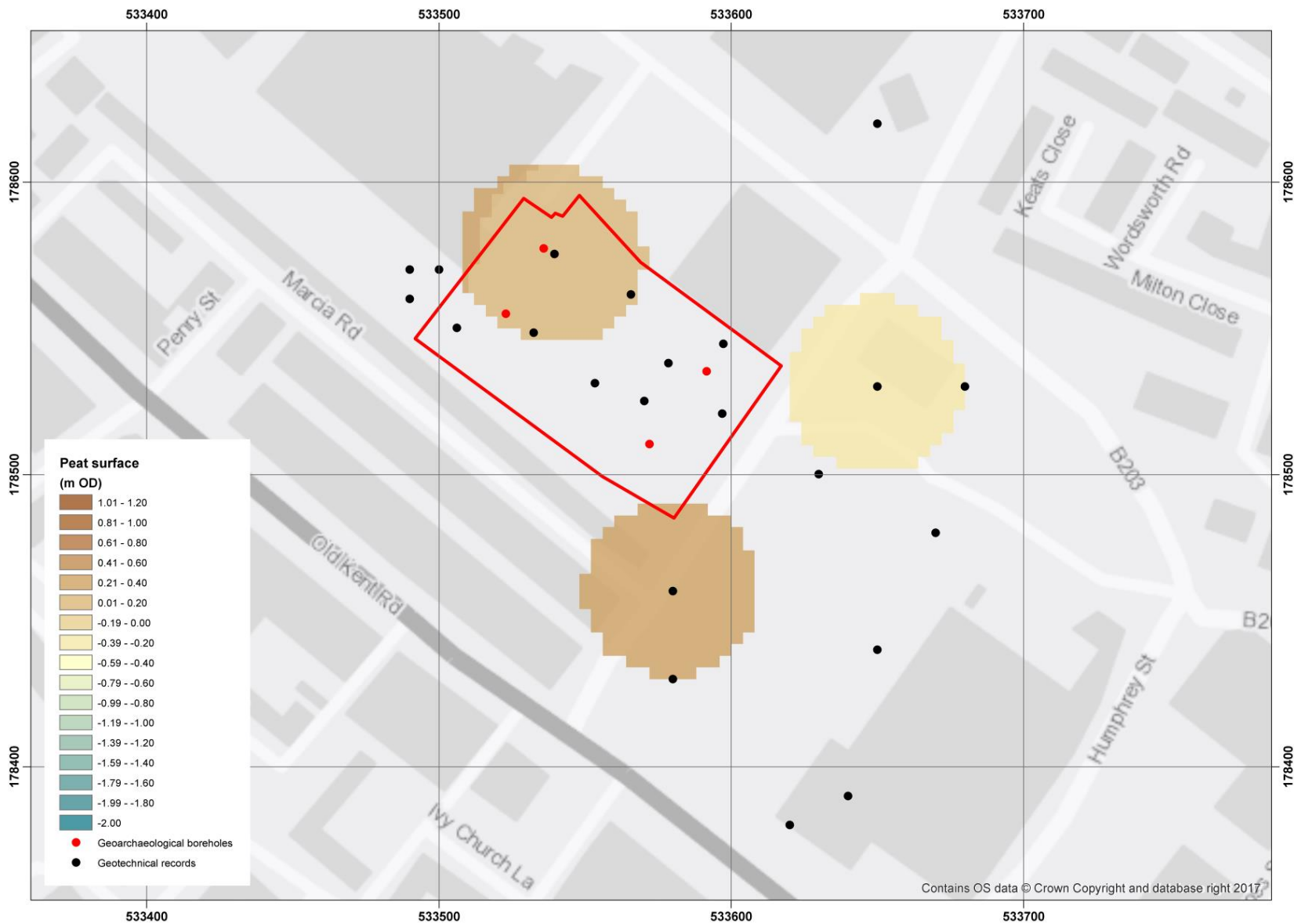


Figure 5: Top of the Peat (m OD) (site outline in red).

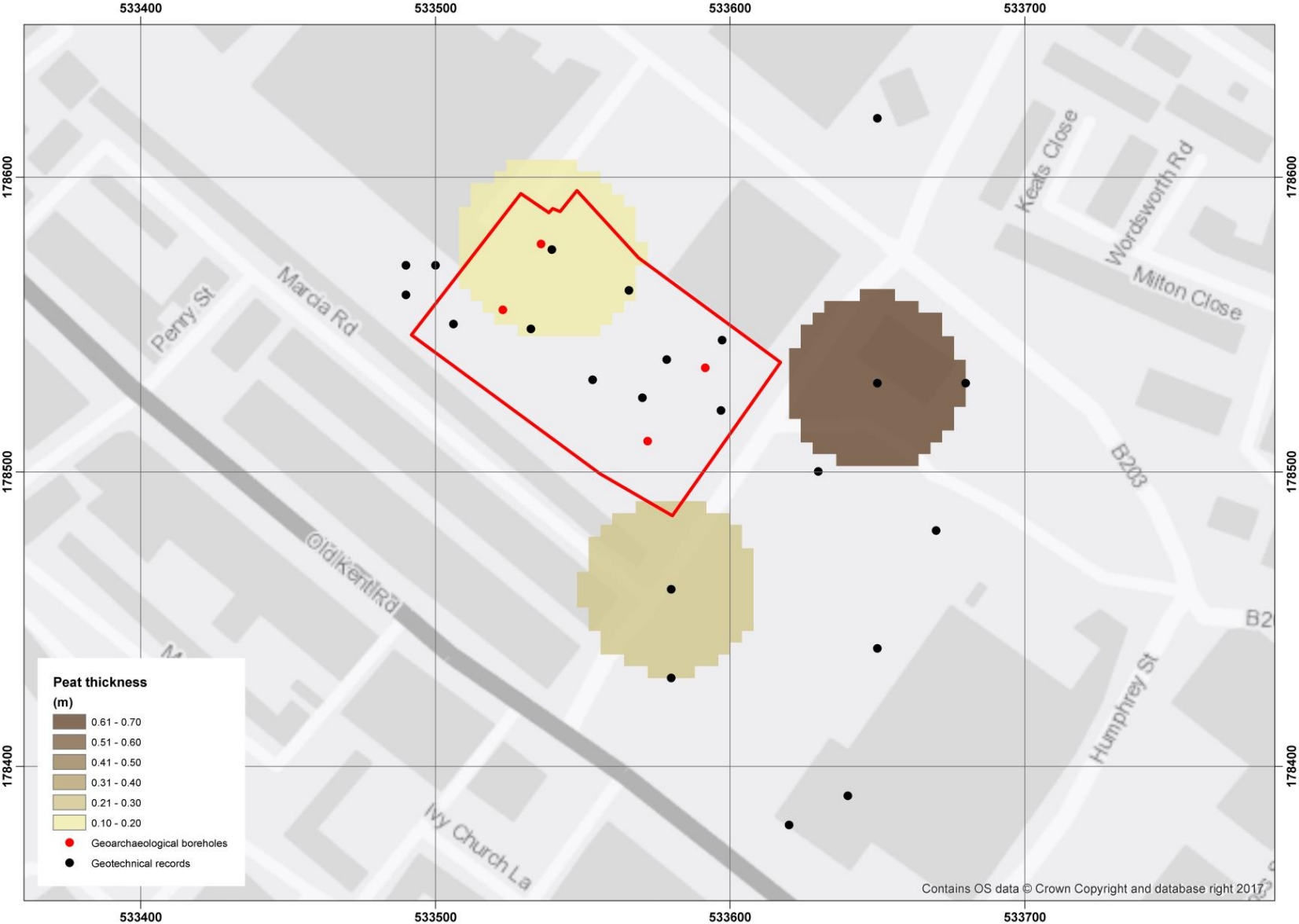


Figure 6: Thickness of the Peat (m) (site outline in red).

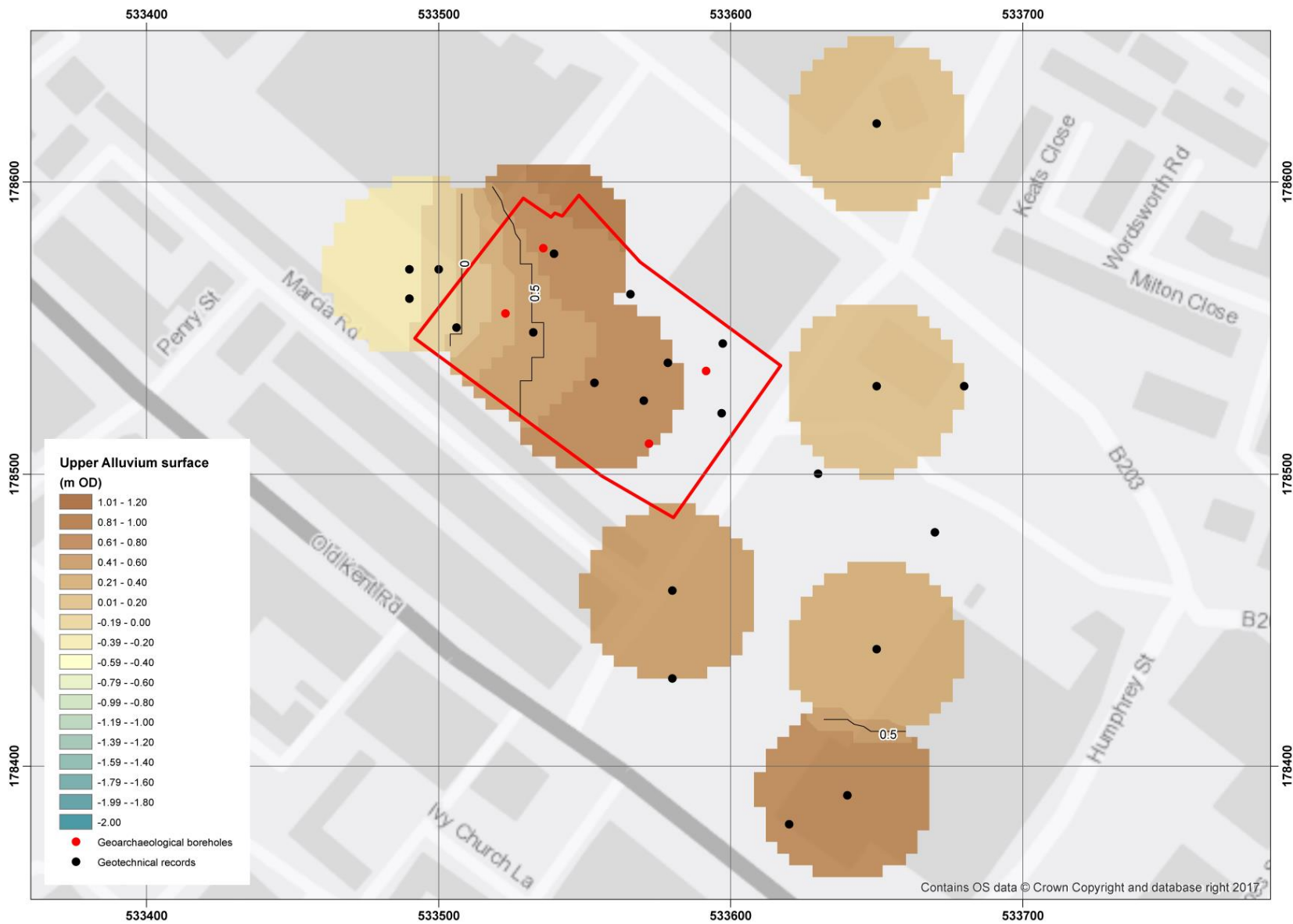


Figure 7: Top of the Upper Alluvium (m) (site outline in red).

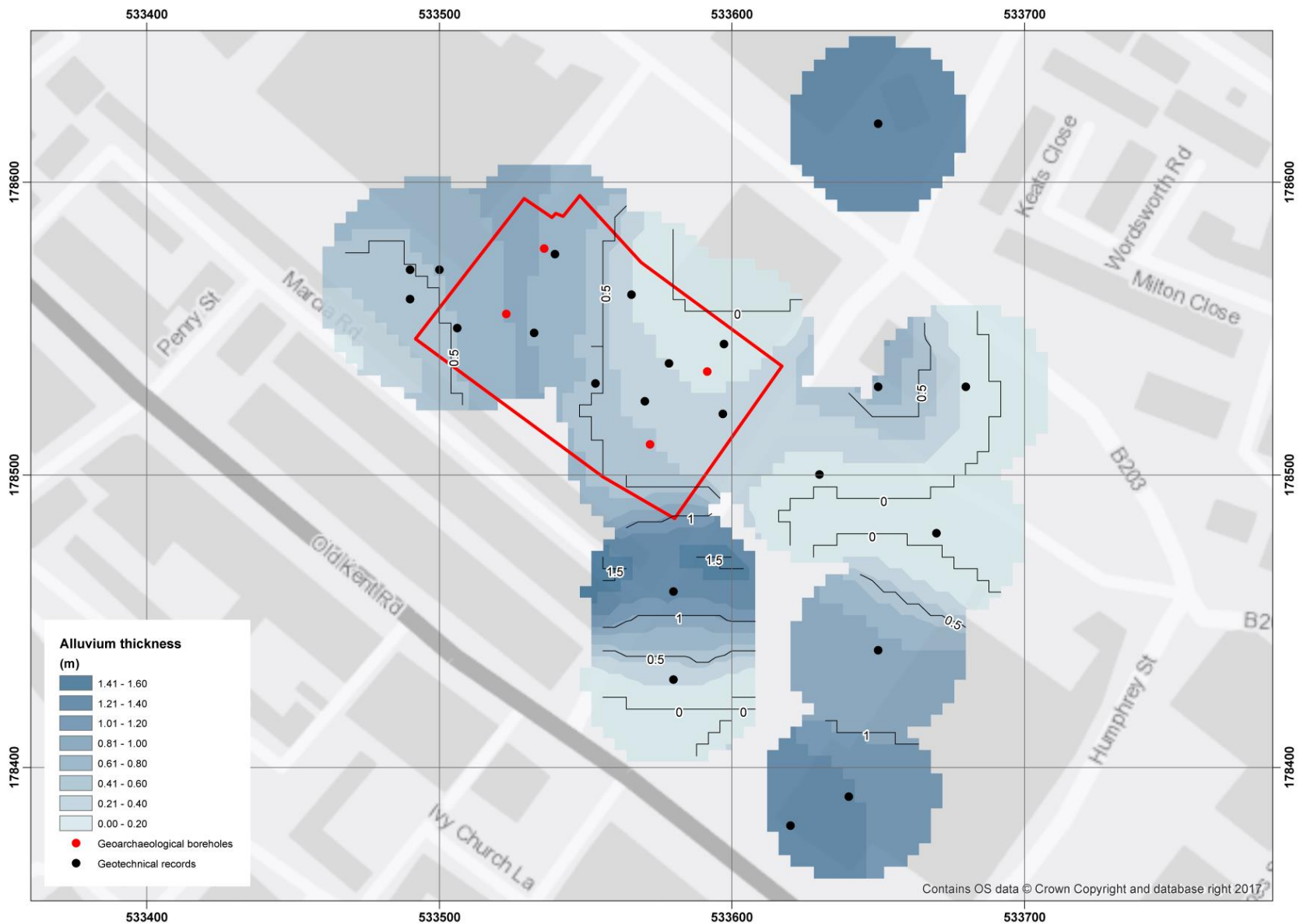


Figure 8: Thickness of the Holocene alluvial sequence (Lower Alluvium, Peat and Upper Alluvium) (m) (site outline in red).

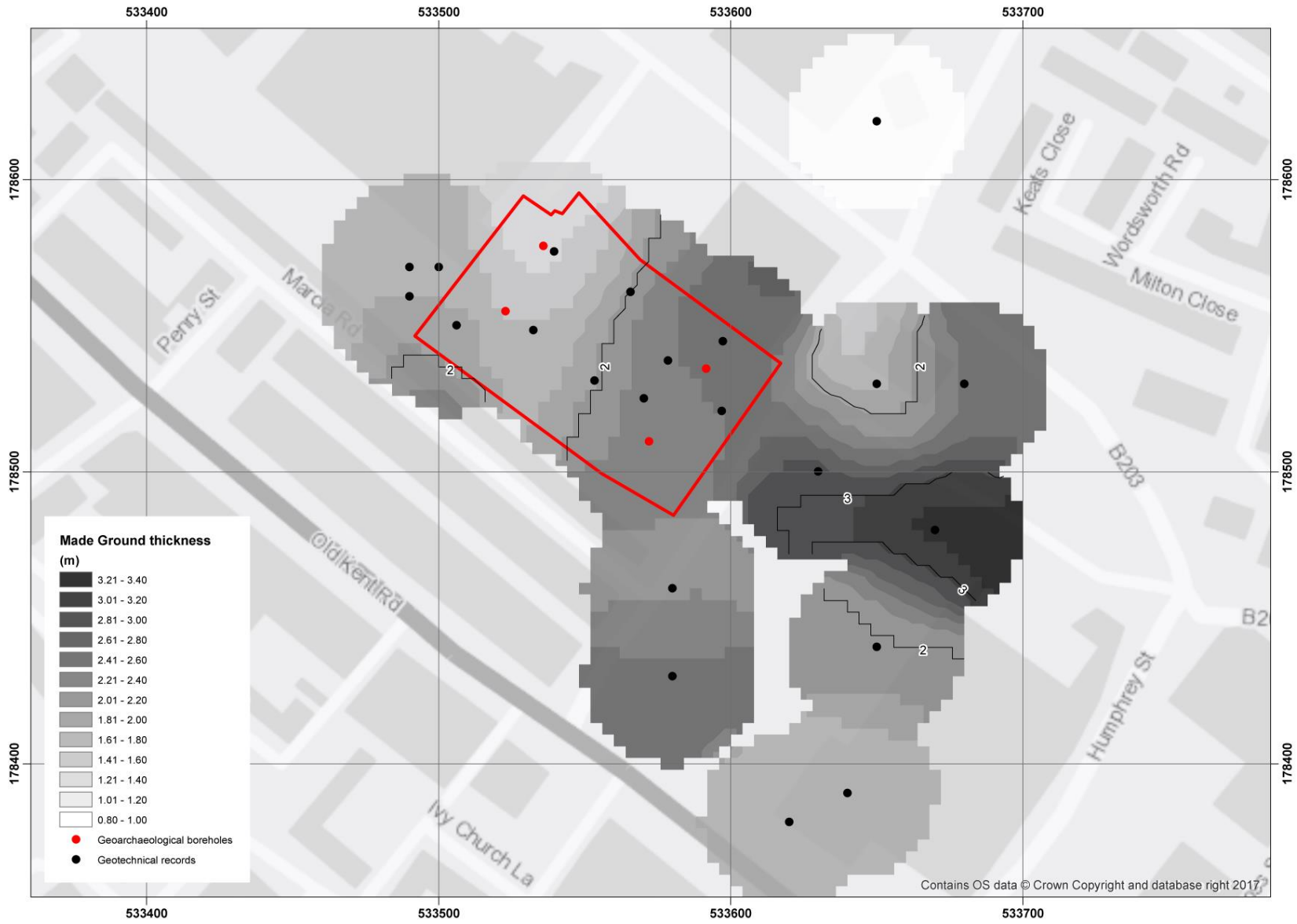


Figure 9: Thickness of Made Ground (m) (site outline in red).

Table 2: Lithostratigraphic description of borehole QBH1, Mandela Way, Southwark

Depth (m OD)	Depth (m bgl)	Description	Stratigraphic group
1.67 to 0.77	0.00 to 0.90	Made Ground of tarmac and concrete hardstanding over brick and gravel in brown sandy clay matrix.	MADE GROUND
0.77 to 0.47	0.90 to 1.20	Ag2 Sh1 As1 Ga+; dark grey organic clayey silt with a trace of sand. Diffuse contact in to:	UPPER ALLUVIUM
0.47 to 0.17	1.20 to 1.50	As3 Ag1; blue grey silty clay. Diffuse contact in to:	
0.17 to 0.01	1.50 to 1.66	Sh3 Ag1 Ga+; humo. 4; brown well humified silty peat with a trace of sand. Diffuse contact in to:	PEAT
0.01 to -0.23	1.66 to 1.90	As2 Ag1 Ga1; blue grey sandy silty clay. Diffuse contact in to:	LOWER ALLUVIUM
-0.23 to 0.78	1.90 to 2.45	Gg2 As1 Ga1 Ag+; greenish grey sandy clayey gravel with a trace of silt. Clasts are flint, well-rounded to sub-angular, up to 20mm in diameter. Diffuse contact in to:	PLEISTOCENE GRAVEL
-0.78 to -0.89	2.45 to 2.56	Ga4 Gg+; greenish grey sand with occasional gravel clasts. Sharp contact in to:	
-0.89 to -1.05	2.56 to 2.72	Gg3 Ga1; greenish grey sandy gravel. Clasts are flint, well-rounded to sub-angular, up to 20mm in diameter. Sharp contact in to:	
-1.05 to -1.09	2.72 to 2.76	Ga4; orange sand. Sharp contact in to:	
-1.09 to -1.33	2.76 to 3.00	Ga3 Gg1; greyish orange gravelly sand.	

Table 3: Lithostratigraphic description of borehole QBH2, Mandela Way, Southwark

Depth (m OD)	Depth (m bgl)	Description	Stratigraphic group
1.98 to 1.08	0.00 to 0.90	Made Ground of tarmac and concrete hardstanding over brick, gravel and ash in brown silty clay matrix.	MADE GROUND
1.08 to 0.78	0.90 to 1.20	As2 Ag2 Ga+; orangey grey silt and clay with a trace of sand. Diffuse contact in to:	UPPER ALLUVIUM
0.78 to 0.48	1.20 to 1.50	Ga3 Ag1 As+; grey silty sand with a trace of clay. Orange mottling. Diffuse contact in to:	LOWER ALLUVIUM
0.48 to 0.18	1.50 to 1.80	Ag3 As1; grey clayey silt. Orange mottling. Diffuse contact in to:	
0.18 to -0.02	1.80 to 2.00	Ga4; orange sand. Diffuse contact in to:	
-0.02 to -0.28	2.00 to 2.26	Ag2 Ga2; orange sand and silt with some horizontal bedding. Diffuse contact in to:	
-0.28 to -1.02	2.26 to 3.00	Gg3 Ga1; orange sandy gravel. Clasts are flint, well-rounded to sub-angular, up to 245mm in diameter. Manganese/iron staining at 2.35 to 2.45m bgl.	PLEISTOCENE GRAVEL

Table 4: Lithostratigraphic description of borehole QBH3, Mandela Way, Southwark

Depth (m OD)	Depth (m bgl)	Description	Stratigraphic group
1.94 to 0.24	0.00 to 1.70	Made Ground of tarmac and concrete hardstanding over brick, gravel and concrete in brown sandy clay matrix.	MADE GROUND

Depth (m OD)	Depth (m bgl)	Description	Stratigraphic group
0.24 to -0.06	1.70 to 2.00	Ag2 Ga1 As1; dark grey clayey sandy silt. Redeposited.	PLEISTOCENE GRAVEL
-0.06 to -0.36	2.00 to 2.30	Brick, gravel and concrete in brown sandy clay matrix.	
-0.36 to -0.62	2.30 to 2.56	Gg3 Ga1; grey sandy gravel. Clasts are flint, well-rounded to sub-angular, up to 30mm in diameter. Sharp contact in to:	
-0.62 to -0.74	2.56 to 2.68	Ga4; orange sand. Sharp contact in to:	
-0.74 to -0.78	2.68 to 2.72	Ag3 Ga1 As+; grey sandy silt with traces of clay. Sharp contact in to:	
-0.78 to -0.82	2.72 to 2.76	Ga4; orange sand. Diffuse contact in to:	
-0.82 to -0.91	2.76 to 2.85	Ag2 Ga2 As+; grey sand and silt with a trace of clay. Sharp contact in to:	
-0.91 to -1.06	2.85 to 3.00	Gg3 Ga1 Ag+; orange sandy gravel with a trace of silt. Clasts are flint, well-rounded to sub-angular, up to 30mm in diameter.	

Table 5: Lithostratigraphic description of borehole QBH4, Mandela Way, Southwark

Depth (m OD)	Depth (m bgl)	Description	Stratigraphic group
2.77 to 1.19	0.00 to 1.58	Made Ground of tarmac and concrete hardstanding over brick, gravel and concrete in dark brown sandy, silty clay matrix.	MADE GROUND
1.19 to 1.09	1.58 to 1.68	Redeposited orange sand. Sharp contact in to:	
1.09 to 0.77	1.68 to 2.00	Redeposited dark grey silty clay with brick fragments and ash. Sharp contact in to:	
0.77 to 0.45	2.00 to 2.32	Gravel in brown silty clay matrix. Sharp contact in to:	
0.45 to 0.33	2.32 to 2.44	As2 Ag2; brown silt and clay with orange mottling. Diffuse contact in to:	LOWER ALLUVIUM
0.33 to -0.13	2.44 to 2.90	Ag3 Ga1; brown sandy silt with orange mottling. Sharp contact in to:	
-0.13 to -0.23	2.90 to 3.00	Gg2 Ga2; orange sand and gravel. Clasts are flint, well-rounded to sub-angular, up to 10mm in diameter.	PLEISTOCENE GRAVEL

5. CONCLUSION & RECOMMENDATIONS

The aim of the geoarchaeological investigations at the site were: (1) to clarify the nature of the sub-surface stratigraphy, and (2) to clarify the nature, depth, extent and possible date of any alluvium and organic/peat deposits. In order to address these aims, a total of four geoarchaeological boreholes were put down at the site, and the stratigraphic data from existing geotechnical and geoarchaeological boreholes from the site and the wider area used to produce a deposit model of the major depositional units.

The results of the deposit modelling indicate that the sediments recorded at the site are similar to those recorded elsewhere in the Lower Thames Valley, particularly those overlying the Gravel towards the floodplain edge. The surface of the Gravel at Mandela Way is recorded at between -0.96 and 0.01m, with the highest Gravel surfaces recorded towards the centre of the site, from where it falls slightly to the north, east and south. 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. The Gravel at the site is overlain in most places by a relatively thin layer of alluvial deposits, between ca. 0.5 and 1.0m in thickness, which in two records towards the north of the site includes a thin layer of peat, recorded between 0.01 and 0.17m OD in MWQBH1, and between 0.02 and 0.12m OD in MWTP5. Similar peat deposits, dated to the Bronze Age, have been recorded ca. 150m to the east at the Bricklayers Arms Railway Yard, Rolls Road (MLO17790).

Although it has the potential to provide information on the environmental history of the site and its environs, the peat horizon recorded at the Mandela Way is thin (<0.16m), and only locally present. A limited programme of radiocarbon dating of the peat in borehole MWQBH1 is therefore recommended; should the age of the peat be consistent with other records in Southwark, no further environmental archaeological assessment will be recommended. The elevation of the Gravel recorded at the site indicates that the site does appear to contain the potential for archaeological evidence or remains to be present; however, it is of note that the Gravel surface is not as high as that at the B&Q Depot, Old Kent Road (Bird *et al.*, 1991; Sidell *et al.*, 2002) or 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.

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Quaternary Scientific (QUEST) Unpublished Report December 2017; Project Number 158/17

41	ML060028	091623/00/00	FS	HUMPHREY ST	FINDSPOT, FINDSPOT	10000 BC to 2201 BC	Early Mesolithic to Late Neol	Evaluation and subsequent excavation undertaken by P Thompson of Museum of London Archaeology Service, Aug-Nov93, site code TC093. A number of post-Medieval pits were recorded.
42	ML060029	091624/00/00	MON	HUMPHREY ST	PEAT	500000 BC to 42 AD	Prehistoric	
43	ML060031	091625/00/00	MON	HUMPHREY ST	DITCH	43 AD to 409 AD	Roman	Evaluation by C. Sparrey-Green for Museum of London Archaeology Service, August 1993; site code HPS 93. A peat horizon suggested that the site lay on the margins of a body of water, subject to periodic flooding. PERIODS RECORDED UNDER SAME SITE CODE: Meso- or neolithic (091623); prehistoric (this entry); Roman (091625); post-med (091626).
44	ML060032	091626/00/00	MON	HUMPHREY ST	BEDDING TRENCH	1540 AD to 1900 AD	Post Medieval	Evaluation by C. Sparrey-Green for Museum of London Archaeology Service, August 1993; site code HPS 93. Two Roman ditches were found, running roughly parallel to each other, and to Old Kent Road. It was suggested that they may be related to some early route created as a preliminary to the laying out of the first metalled roads in the Flavian period. PERIODS RECORDED UNDER SAME SITE CODE: Meso- or neolithic (091623); prehistoric (091624); Roman (this entry); post-med (091625).
45	ML060223	091677/00/00	MON	360 OLD KENT RD (REAR OF)	FLOOD DEPOSIT			Evaluation by C. Sparrey-Green for Museum of London Archaeology Service, August 1993; site code HPS 93. Later land use was represented by post-medieval bedding trenches set at right angles to Old Kent Road - these are shown on 18th century maps, though Mine's map of 1800 shows pasture. PERIODS RECORDED UNDER SAME SITE CODE: Meso- or neolithic (091623); prehistoric (091624); Roman (091625); post-med (this entry).
46	ML060223	091677/00/00	MON	360 OLD KENT RD (REAR OF)	FLOOD DEPOSIT			Watching brief over new sewer trench sections by J. Dillon for Southwark Council Development Department, July 1994; site code OKD 94. No activity earlier than 19th century was noted, but waterlain deposits may have represented the south-east edge of the "flood plain" of the Earf's Sluice river. Natural gravel and sand was measured at -0.30m O.D., which is important in relation to the line of Roman Watling Street and its crossing of the Earf's Sluice to the west.
47	ML062921	091739/00/00	MON	OLD KENT RD	FLOOD DEPOSIT	500000 BC to 42 AD	Prehistoric	Watching brief over new sewer trench sections by J. Dillon for Southwark Council Development Department, July 1994; site code OKD 94. No activity earlier than 19th century was noted, but waterlain deposits may have represented the south-east edge of the "flood plain" of the Earf's Sluice river. Natural gravel and sand was measured at -0.30m O.D., which is important in relation to the line of Roman Watling Street and its crossing of the Earf's Sluice to the west.
48	ML062922	091740/00/00	MON	OLD KENT RD	FIELD SYSTEM	43 AD to 409 AD	Roman	Evaluation and subsequent excavation undertaken by P Thompson of Museum of London Archaeology Service, Aug-Nov93, site code TC093. Numerous features were recorded cutting naturally deposited alluvial sands and gravels. Further alluvial deposits sealed these features, many of which were dated to the early Roman period.
49	ML062923	091741/00/00	MON	OLD KENT RD	POST HOLE	43 AD to 409 AD	Roman	Evaluation and subsequent excavation undertaken by P Thompson of Museum of London Archaeology Service, Aug-Nov93, site code TC093. Numerous ditches were recorded, which probably served as field boundaries and drainage channels. One of these ditches was dated to the early C2 whilst the others were of late C2/C3 date.
50	ML062924	091742/00/00	FS	OLD KENT RD	FINDSPOT	500000 BC to 42 AD	Prehistoric	Evaluation and subsequent excavation undertaken by P Thompson of Museum of London Archaeology Service, Aug-Nov93, site code TC093. Two groups of postholes were recorded, which appeared to be of a similar date as the late C2/C3 field ditches.
51	ML062926	091743/00/00	MON	OLD KENT RD	WATER CHANNEL	500000 BC to 42 AD	Prehistoric	Evaluation and subsequent excavation undertaken by P Thompson of Museum of London Archaeology Service, Aug-Nov93, site code TC093. A number of residual prehistoric struck flints were recovered from both Roman and post-Medieval contexts, suggesting prehistoric occupation on the eastern side of the site, possibly associated with the recorded water channel (SMR ref: 091743).
52	ML062927	091744/00/00	MON	OLD KENT RD	DUMP	1540 AD to 1900 AD	Post Medieval	Evaluation and subsequent excavation undertaken by P Thompson of Museum of London Archaeology Service, Aug-Nov93, site code TC093. An ancient water channel was recorded on the eastern edge of the site, possibly associated with a group of residual struck flints (SMR ref: 091742).
53	ML062928	091745/00/00	MON	OLD KENT RD	PIT	1540 AD to 1900 AD	Post Medieval	Evaluation and subsequent excavation undertaken by P Thompson of Museum of London Archaeology Service, Aug-Nov93, site code TC093. Evidence for dumping in the post-Medieval period was recorded.
54	ML063702	091942/00/00	MON	BRICKLAYERS ARMS, PAGES WALK, MANDELA WAY, SE1	PEAT, PEAT	2200 BC to 701 BC	Bronze Age	Excavation by A. Steele for Department of Greater London Archaeology (S&L), 1968; site code MDW86. Peats overlying clays were revealed, which apparently represented the W edge of an early mere or marshy area subject to flooding, drying and vegetation growth according to the level of the Thames. The peat may be a further instance of the Tilbury IV Late Bronze Age peats found elsewhere in N Southwark. In the E part of the site, flood clays and natural strata were cut by 18th and early 19th century intrusions. No further periods recorded under same site code.
55	ML063761	091970/00/00	MON	WILLOW WALKPAGES WALK,	UNASSIGNED	1540 AD to 1900 AD	Post Medieval	Excavation by A. Steele for Department of Greater London Archaeology (S&L), 1967; site code WWK67. 18th to early 19th century intrusions were revealed, cutting floodplains which overlay natural. Periods recorded under same site code: possible late Bronze Age (091971).
56	ML063763	091971/00/00	MON	WILLOW WALKPAGES WALK,	PEAT, PEAT	2200 BC to 701 BC	Bronze Age	Excavation by A. Steele for Department of Greater London Archaeology (S&L), 1967; site code WWK67. Clays were overlaid by peats, possibly of the Bronze Age Tilbury IV period, at the eastern end of the area examined. This was apparently the western edge of a mere or marsh. Periods recorded under same site code: post-medieval (091970).
57	ML067080	092251/00/00	MON	96-120 MASSINGER ST	DITCH	43 AD to 409 AD	Roman	Evaluation undertaken by K Heard for Museum of London Archaeology Service, Dec94-Jan95, site code MSG94. Several ditches of Roman date were found. Periods recorded under same site code: Roman (092251-3), medieval (092254), post-medieval (092255).
58	ML067081	092252/00/00	MON	96-120 MASSINGER ST	PIT	43 AD to 409 AD	Roman	Evaluation undertaken by K Heard for Museum of London Archaeology Service, Dec94-Jan95, site code MSG94. A pit of Roman date was recorded. Periods recorded under same site code: Roman (092251-3), medieval (092254), post-medieval (092255).
59	ML067082	092253/00/00	MON	96-120 MASSINGER ST	DEPOSIT UNCLASSIFIED	43 AD to 409 AD	Roman	Evaluation undertaken by K Heard for Museum of London Archaeology Service, Dec94-Jan95, site code MSG94. Roman features (SMR refs: 092251-2) were sealed by a soil horizon which produced Roman material. Periods recorded under same site code: Roman (092251-3), medieval (092254), post-medieval (092255).
60	ML067083	092254/00/00	MON	96-120 MASSINGER ST	RUBBISH PIT	1066 AD to 1539 AD	Medieval	Evaluation undertaken by K Heard for Museum of London Archaeology Service, Dec94-Jan95, site code MSG94. A Roman soil horizon (SMR ref: 092253) was cut by a medieval rubbish pit. Periods recorded under same site code: Roman (092251-3), medieval (092254), post-medieval (092255).
61	ML067084	092255/00/00	MON	96-120 MASSINGER ST	DITCH	1540 AD to 1900 AD	Post Medieval	Evaluation undertaken by K Heard for Museum of London Archaeology Service, Dec94-Jan95, site code MSG94. Extensive agricultural trenches dating to the 18th century were located. Periods recorded under same site code: Roman (092251-3), medieval (092254), post-medieval (092255).
62	ML067171	092272/00/00	MON	HENDRE RD	DITCH	43 AD to 409 AD	Roman	Trial excavation by M.G. Dennis for Southwark and Lambeth Archaeological Excavation Committee, 1978; site code HEV78. A Roman ditch and ??? 'Maoni handclub' were found. No further periods recorded under this site code.
63	ML072131	092740/00/00	MON		WATER CHANNEL	1540 AD to 1900 AD	Post Medieval	Desktop assessment of Albany Rd undertaken by OAU, 1990. Earf's Sluice is recorded as a water course in use up to 1746. This may have been formed as a remnant of the Roman water system.
64	ML074507	092929/00/00	MON	GRIMCOTT ST	TANNERY	1540 AD to 1900 AD	Post Medieval	large tannery operating in 1872, site redeveloped as part of factory.
65	ML075374	ML075374	MON	Coopers Road Estate, Southwark	PEAT, CHANNEL	500000 BC to 42 AD	Prehistoric	An Archaeological Evaluation was carried out by Oxford Archaeology at Coopers Road Estate, Southwark, between the 8th and 16th of October 2001. The trenches were located in the open grassed areas between the housing blocks and were excavated down on to the natural. Peat deposits were identified in the northern part of the site, possibly representing the edge of a prehistoric channel or mere. To the south a post-medieval cultivated soil was recorded. Both peats and soil were sealed by modern made ground. No significant archaeological deposits were identified, although the possibility remains that isolated features may survive between the trenches.
66	ML076278	ML076278	MON	205-209 OLD KENT ROAD, SE1	MAKEUP LAYER	43 AD to 409 AD	Roman	A post-glacial sedimentary sequence was followed by a Roman soil with Samian and sand-tempered pottery.

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67	MLO76463	MLO76463	MON	Bricklayers' Arms Estate, Old Kent Road, Southwark	COBBLED SURFACE, MADE GROUND	1800 AD	18th Century to Unknown	An archaeological evaluation was carried out by PCA at Bricklayers' Arms Estate, Old Kent Road, Southwark sometime in 1998 and before August. This was commissioned by Peabody Trust and the development is by way of landscaping as amenity land. Two trial trenches (2m wide and an area of ten meters long) were dug down to natural geological levels c. 1.20m below the current ground level. The top 0.80m of the sequence in both trenches consisted of modern material interpreted as levelling dumps associated with the entranceway to the 19th century Bricklayers' Arms railway depot and drainage beneath it
68	MLO7667	090519/00/00	MON	HENDRE RD	DITCH	43 AD to 409 AD	Roman	ROMAN DITCH CUT INTO CLAY AT RIGHT ANGLES TO PRESUMED ROUTE OF WATLING ST. FOUND IN TRIAL EXC 1978
69	MLO77325	MLO77325	MON	Bricklayers' Arms Estate, Old Kent Road, Southwark	CULTIVATION SOIL	1066 AD to 1900 AD	Medieval to 19th Century	An archaeological evaluation was carried out by PCA at Bricklayers' Arms Estate, Old Kent Road, Southwark sometime in 1998 and before August. This was commissioned by Peabody Trust and the development is by way of landscaping as amenity land. Two trial trenches (2m wide and an area of ten meters long) were dug down to natural geological levels c. 1.20m below the current ground level. The lower part of the sequence showed dumped deposits and soils interpreted as having formed by agricultural activity during the Medieval and Post-Medieval periods
70	MLO77729	MLO77729	MON	205-206 OLD KENT ROAD, SE1	MAKEUP LAYER	1540 AD to 1900 AD	Post Medieval	The top of the soil was reworked by Post-medieval digging over to get rid 18th century ash and nightsoil, incorporating glass from the Castle Inn. This was succeeded by a sand make-up dump which had 19th century ginger beer bottles in it
71	MLO9188	091316/00/00	MON	281-333 OLD KENT RD	PIT, WALL	1540 AD to 1900 AD	Post Medieval	A NUMBER OF PITS & WALL FOUNDATIONS (19th century?) FOUND IN UNCOMPLETED SITE EVALUATION BY Department of Greater London Archaeology 1990 (EAR90). UNDATED FEATURES ALSO FOUND (SEE 091317)
72	MLO9198	091317/00/00	MON	281-333 OLD KENT RD	UNASSIGNED			THE EDGES OF LOW GROUND OR NATURAL FEATURES WERE REVEALED TO NORTH & EAST IN PARTIALLY COMPLETED SITE EVALUATION BY Department of Greater London Archaeology 1990. SEE 091316 FOR Post Medieval FEATURES ON SITE
73	MLO98106	MLO98106	MON	Old Kent Road (221-223), SE1	MADE GROUND		Unknown to Modern	A watching brief was carried out by C Pickard on behalf of Pre-Construct Archaeology between 1st April 2004 and the 10th January. Modern cut features and made ground were recorded. "the natural gravelly sand was recorded"
74	MLO98106	MLO98106	MON	Old Kent Road (221-223), SE1	MADE GROUND		Unknown to Modern	A watching brief was carried out by C Pickard on behalf of Pre-Construct Archaeology between 1st April 2004 and the 10th January. Modern cut features and made ground were recorded. "the natural gravelly sand was recorded"
75	MLO98752	MLO98752	MON	Old Kent Road (Nos. 419-423) (undated plough soil)	PLOUGH SOIL			Evaluation work by the Museum of London Archaeology Service during 2007 recorded a substantial plough soil throughout the three trenches excavated. This plough soil had been cut through by 19th and 20th century drainage features, but was in itself undat
76	MLO9958	091332/00/00	MON	281-443 OLD KENT RD	HEARTH, HEARTH, GULLY, GULLY, OCCUPATION SITE, OCCUPATION SITE	4000 BC to 701 BC	Early Neolithic to Late Bronze	FLINTS, POTTERY, DAUB, ANIMAL BONE, HEARTH & GULLY FOUND IN EXCAVATION BY Department of Greater London Archaeology 1990 SITE CODE HUM90
77	MLO9959	091333/00/00	MON	281-443 OLD KENT RD	DITCH	43 AD to 409 AD	Roman	ROMAN DITCHES FOUND DURING EXCAVATION BY Department of Greater London Archaeology 1990 SITE CODE HUM90. SEE091332-4 FOR OTHER FINDS
78	ELO1005		EVT	Coopers Road Estate, Southwark				
79	ELO10572		EVT	Humphrey Street, London, SE1: Archaeological Evaluation				
80	ELO10579		EVT	Old Kent Road, London, SE1: Evaluation				
81	ELO10581		EVT	Old Kent Road, London, SE1: Excavation				
82	ELO10616		EVT	Albany Road (No 14-38), Bermondsey, London: Watching Brief				
83	ELO12352		EVT	Dunton Road (Nos 30-32), Bermondsey, Southwark, SE1 STJ: Desk Based Assessment				
84	ELO12571		EVT					
85	ELO12648		EVT	Dunton Road, Bermondsey, Southwark: Evaluation				
86	ELO12687		EVT	Grange Road [Alaska Works], Bermondsey, Southwark, SE1: Evaluation				
87	ELO12740		EVT	Cooper's Road, Bermondsey, Southwark, SE1: Desk Based Assessment				
88	ELO12743		EVT	Dunton Road (No 32) [Former Clarendon Arms], Bermondsey, Southwark: Historic Building Recording				
89	ELO12744		EVT	Dunton Road (Nos 30-32), Bermondsey, Southwark, SE1 STJ: Archaeological Evaluation				
90	ELO12751		EVT	Willow Walk, Bermondsey, Southwark, SE1: Desk Based Assessment				
91	ELO13097		EVT	Dunton Road (Nos 30-32), Bermondsey, Southwark, SE1 STJ: Watching Brief				
92	ELO2590		EVT	105-106 GRANGE RD, SE1				
93	ELO2668		EVT	14-38 ALBANY RD				
94	ELO2681		EVT	Albany Road (No 14-38), Southwark, SE5, Evaluation				
95	ELO2701		EVT	Grange Road [Alaska Works], Bermondsey, Southwark, SE1: Evaluation				
96	ELO2817		EVT	Bricklayers' Arms Railway Depot Site				
97	ELO3211		EVT	281-333 OLD KENT RD				
98	ELO3369		EVT	HENDRE RD				
99	ELO3649		EVT	HUMPHREY ST				
100	ELO3683		EVT	Road Widening Scheme				
101	ELO3982		EVT	Bricklayers' Arms				
102	ELO4207		EVT	360 OLD KENT RD (REAR OF)				
103	ELO4972		EVT	WILLow WALK/PAGES WALK,				
104	ELO6087		EVT	Old Kent Road (221-223)				
105	ELO6087		EVT	Old Kent Road (221-223)				
106	ELO7698		EVT	Old Kent Road (Nos. 419-423), Southwark: evaluation				
107	ELO807		EVT	205-206 OLD KENT ROAD, SE1				
108	ELO807		EVT	205-206 OLD KENT ROAD, SE1				
109	ELO8597		EVT	Mina Road, [Waltham Academy], Southwark, Archaeological Evaluation				
110	ELO988		EVT	Bricklayers' Arms Estate, Old Kent Road, Southwark				
111	MLO63582	091905/00/00	NA	105-106 GRANGE RD, SE1	NEGATIVE EVIDENCE			
112			CA	Page's Walk SE1				
113			CA	Thurston Square SE1				
114			CA	Trafalgar Avenue SE15				
115			CA	Cobourge Road SE15				
116			CA	Bermondsey Street SE1				
117	DLO35764	DLO35764	APA	Bermondsey Lake				
118	DLO35767	DLO35767	APA	Old Kent Road				
119	MLO104866	MLO104866	MON	Old Kent Road (Nos. 82-96), Southwark, SE1 [Roman Features]	MAUSOLEUM?; FOUNDATION; DITCH; PIT; CREMATION PIT?; BURIAL PIT?	43 to 409	Roman	A number of Roman features were uncovered during an excavation by the Museum of London Archaeology Service at 82-96 Old Kent Road between August and September 2004.
120	MLO104867	MLO104867	MON	Old Kent Road (Nos. 82-96), Southwark, SE1 [Medieval Agricultural Soil]	CULTIVATION SOIL	1066 to 1539	Medieval	A possible deposit of medieval agricultural soil was found during an excavation by the Museum of London Archaeology Service at 82-96 Old Kent Road between August and September 2004.
121	MLO104868	MLO104868	MON	Old Kent Road (Nos. 82-96), Southwark, SE1 [Post medieval features]	POST HOLE; WELL	1601 to 2050	Post Medieval to Modern	A number of post medieval features were found during an excavation by the Museum of London Archaeology Service at 82-96 Old Kent Road between August and September 2004.
122	MLO104956	MLO104956	MON	Dunton Road (Nos 30-32), Bermondsey, Southwark, SE1 STJ [Post medieval pits]	QUARRY PIT	1601 to 1700	Post Medieval	Six post medieval quarry pits were discovered during monitoring for foundation trenches at 30-32 Dunton Road by Pre Construct Archaeology in 2012.
123	MLO104957	MLO104957	MON	Dunton Road (Nos 30-32), Bermondsey, Southwark, SE1 STJ [19th century cellar/soakaway]	WELL?; SOAKAWAY?	1801 to 1850	Post Medieval	A 19th century brick lined cellar or soakaway was discovered during a watching brief at 30-32 Dunton Road in 2012.
124	MLO105006	MLO105006	MON	Dunton Road (Nos 30-32) Bermondsey, Southwark, London SE1 5TJ [Post Medieval quarry pits]	QUARRY PIT	1580 to 1700	Post Medieval	Two post medieval quarry pits were uncovered during excavations by Pre Construct Archaeology at 30-32 Dunton Road during August of 2012.

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125	MLO105007	MLO105007	MON	Grange Road/Curtis Street/Bacon Grove [Alaska Works], Southwark, London SE1 (Medieval post holes, pits)	PIT; POST HOLE	1066 to 1539	Medieval	An excavation by the Department of Greater London Archaeology in 1989 found Medieval pits and post holes.
126	MLO105007	MLO105007	MON	Grange Road/Curtis Street/Bacon Grove [Alaska Works], Southwark, London SE1 (Medieval post holes, pits)	PIT; POST HOLE	1066 to 1539	Medieval	An excavation by the Department of Greater London Archaeology in 1989 found Medieval pits and post holes.
127	MLO105008	MLO105008	MON	Grange Road/Curtis Street/Bacon Grove [Alaska Works], Southwark, London SE1 (17th century cottage garden)	COTTAGE GARDEN?	1601 to 1700	Post Medieval	An excavation by the Department of Greater London Archaeology in 1989 found a series of 17th century agricultural cuts.
128	MLO105009	MLO105009	MON	Grange Road [Bermondsey Spa] Southwark, London SE1 (Post Medieval pits, drain)	RIDGE AND FURROW?; PIT; DRAIN	1701 to 1900	Post Medieval	Excavations at Bermondsey Spa in November 2000 by Birkbeck College revealed Post Medieval features including 17th century agricultural furrows, industrial cuts and 19th century brick drains.
129	MLO108097	MLO108097	MON	Grange Road (Nos 108-110) [Bermondsey Health Centre], Bermondsey, Southwark (site of maternity hostel and Public Health Centre)	MATERNITY HOSPITAL; WELFARE CENTRE; MATERNITY CLINIC; MATERNITY CLINIC; CLINIC	1919 to 1989	Modern	Site of American Red Cross Maternity Hostel, a lying-in hostel established in 1919 by Bermondsey Borough Council with funding from the American Red Cross Society. The Hostel was closed in 1923. Nos 100 and 110 Grange Road became a Maternity and Child Welfare
130	MLO23839	MLO23839	MON	Grange Road/Curtis Street/Bacon Grove [Alaska Works], Southwark, London SE1 (Roman settlement)	DITCH; CESS PIT; CREMATION PIT?; POST HOLE; STORAGE PIT?; RUBBISH PIT?; FOOTPATH	43 to 300	Roman	An excavation by the Department of Greater London Archaeology at Grange Road during the summer of 1989 found a Roman ditch, as well as pits and postholes.
131	MLO23839	MLO23839	MON	Grange Road/Curtis Street/Bacon Grove [Alaska Works], Southwark, London SE1 (Roman settlement)	DITCH; CESS PIT; CREMATION PIT?; POST HOLE; STORAGE PIT?; RUBBISH PIT?; FOOTPATH	43 to 300	Roman	An excavation by the Department of Greater London Archaeology at Grange Road during the summer of 1989 found a Roman ditch, as well as pits and postholes.
132	MLO71090	MLO71090	MON	Albany Road (No 14-38)/Old Kent Road, Bermondsey, Southwark (19th century cellar)	CELLAR	1801 to 1900	Post Medieval	A watching brief by Thames Valley Archaeology Service revealed the cellar of a house that would have fronted Albany Road, and associated garden soil.
133	MLO105185	MLO105185	FS	Grange Road, Bermondsey, Southwark (19th century cupels)		Undated	Unknown	Ten 18th century bone ash cupels were found during excavations in Bermondsey. They have been determined to be mainly for silver cupellation, with copper as the main contaminate. They may be evidence of a nearby mint, though no other evidence in the vicin
134	MLO63993	MLO63993	MON	Grange Road (80-85), Southwark (Roman Pits)	PIT	43 to 409	Roman	Several pits, the largest and earliest measuring over 3m in diameter and surviving to a depth of 0.62m, containing small quantities of abraded Roman domestic pottery.
135	MLO74631	093024/00/000	MON	Grange Road, Southwark (Rubber works)	RUBBER WORKS	1801 to 1900	Post Medieval	
136	MLO74632	093025/00/000	MON	BACON GROVE	FACTORY; TANNERY	1540 to 1900	Post Medieval	
137	ELO12686		EVT	Grange Road/Ascot Road/Keyse Road [Bermondsey Spa], Bermondsey, Southwark, SE1: Evaluation	EVT			Birkbeck College, University of London
138	ELO13386		EVT	Old Kent Road (Nos. 82-96), Southwark, SE1: Excavation	EVT			Museum of London Archaeology Service
139	ELO14217		BL	Mandela Way, Walworth, Southwark: Desk Based Assessment	BL			RPS Planning & Development
140	ELO15009		BL	Cooper's Road and Rolls Road, SE1: watching brief	BL			Museum of London Archaeology
141	ELO16308		EVP	Old Kent Road (Nos 205-209) [The Gin Palace], Walworth, Southwark, SE1: Desk Based Assessment	EVP			Museum of London Archaeology Service
142	ELO3361		EVA	Grange Road (80-85), Southwark, London, SE1: Archaeological Evaluation	EVA			Museum of London Archaeology Service
143	ELO10569		EVA	Grange Road (No 86-87), Southwark, SE1: Evaluation	TRIAL TRENCH			Museum of London Archaeology Service
144	ELO12639		EVP	Grange Road, Bermondsey, Southwark: Scientific Analysis				English Heritage
145	ELO14551		EVT	Bacon Grove [Alaska Works], Grange Road (61), Bermondsey, London, SE1: Archaeological Excavation	EXCAVATION			Museum of London Archaeology Service
146	ELO15282		EVP	Old Kent Road, (Nos 201 - 203), Southwark: Desk Based Assessment	DESK BASED ASSESSMENT			Museum of London Archaeology Service
147	ELO17690		BL2	Old Kent Road (No. 201-301) London Borough of Southwark SE1 Archaeological Intervention				Museum of London Archaeology

8. APPENDIX 2: OASIS

OASIS ID: quaterna1-304604

Project details

Project name	Former Car Pound, Mandela Way
Short description of the project	A programme of geoarchaeological fieldwork and deposit modelling was carried out at the Mandela Way site in order to (1) clarify the nature of the sub-surface stratigraphy, and (2) clarify the nature, depth, extent and possible date of any alluvium and organic/peat deposits. The results of the deposit modelling indicate that the sediments recorded at the site are similar to those recorded elsewhere in the Lower Thames Valley, particularly those overlying the Gravel towards the floodplain edge. The surface of the Gravel at Mandela Way is recorded at between -0.96 and 0.01m, with the highest Gravel surfaces recorded towards the centre of the site, from where it falls slightly to the north, east and south. The Gravel is overlain in most places by a relatively thin layer of alluvial deposits, between ca. 0.5 and 1.0m in thickness, which in two records towards the north of the site includes a thin layer of peat, recorded between 0.01 and 0.17m OD in MWQBH1, and between 0.02 and 0.12m OD in MWTP5. Although it has the potential to provide information on the environmental history of the site and its environs, the peat horizon recorded at the Mandela Way is thin (<0.16m), and only locally present. A limited programme of radiocarbon dating of the peat in borehole MWQBH1 is therefore recommended; should the age of the peat be consistent with other records in Southwark, no further environmental archaeological assessment will be recommended. The elevation of the Gravel recorded at the site indicates that the site does appear to contain the potential for archaeological evidence or remains to be present; however, it is of note that the Gravel surface is not as high as that at the B&Q Depot, Old Kent Road (Bird et al., 1991; Sidell et al., 2002) or 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.
Project dates	Start: 01-10-2017 End: 20-12-2017
Previous/future work	No / Yes
Type of project	Environmental assessment
Significant Finds	PEAT Uncertain

Survey techniques Landscape

Project location

Country England

Site location GREATER LONDON SOUTHWARK BERMONDSEY ROTHERHITHE AND SOUTHWARK Former Car Pound, Mandela Way

Postcode SE1 5SZ

Site coordinates TQ 3355 7854 51.489514194803 -0.07617619586 51 29 22 N 000 04 34 W
Point

Project creators

Name of Quaternary Scientific (QUEST)
Organisation

Project brief RPS
originator

Project design D.S. Young
originator

Project C.R. Batchelor
director/manager

Project supervisor D.S. Young

Type of Developer
sponsor/funding
body

Project archives

Physical Archive No
Exists?

Digital Archive No
Exists?

Paper Archive LAARC
recipient

Paper Contents "Environmental", "Stratigraphic"

Paper Media "Report"
available

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

Entered on 20 December 2017