CAXTON WORKS, THE MOSS BUILDINGS AND GOSWELL BAKERIES, CAXTON STREET NORTH, CANNING TOWN (NGR: TQ 397 810): GEOARCHAEOLOGICAL DEPOSIT MODEL REPORT

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INTRODUCTION

This report summarises the findings arising out of the geoarchaeological investigations undertaken by Quaternary Scientific (University of Reading) in connection with the proposed development at Caxton Works, The Moss Buildings and Goswell Bakeries, Caxton Street North, Canning Town (National Grid Reference: TQ 397 810; site code: CSN14). This report updates an earlier interim report (Young, 2014b) and includes the results of borehole investigations in the southern area of the site (the part of the site south of Hoy Street). The site is in the lower valley of the River Lea, to the east of the river and close to the confluence of the Lea with the River Thames. The western boundary of the site is approximately 300m from the present-day channel of the Lea at a point where the river, known here as Bow Creek, follows a very convoluted meandering course. The mouth of Bow Creek, at its confluence with the Thames, lies *ca*. 400m to the southeast of the site. The British Geological Survey (1:50,000 Sheet 257 Romford 1996) shows the site underlain by Alluvium, described as comprising mainly sand, silt and clay with some gravel, resting on London Clay bedrock. In fact, the Holocene alluvium of the Lower Thames and its tributaries is almost everywhere underlain by Late Devensian Late Glacial Gravels (in the Thames valley, the Shepperton Gravel of Gibbard, 1985, 1994; in the Lea valley, the Lea Valley Gravel of Gibbard, 1994), and this gravel is widely recorded in boreholes in the vicinity of Canning Town.

The site lies within the area that has been investigated in the Lea Valley Mapping Project (Corcoran *et al*., 2011). In this project the Lea Valley has been divided into Landscape Zones characterised by their Holocene landscape history based largely on sedimentary evidence derived from borehole records. The present site lies within Landscape Zone 1.3, characterised by a Gravel surface at between *ca*. -2.0 and -4.0m OD and Holocene Alluvium containing ‘a single peat bed, likely to be of Neolithic date at its base and Bronze Age at the top… interleaved between alluvial clay units’. Five geotechnical boreholes put down within the site by K F Geotechnical (2013) showed that the Gravel surface lay at between 4.0 and 4.5m below ground surface (bgs). In the northern area of the site, Peat was recorded in two boreholes at between 2.0 and 4.5m bgs, whilst towards the south a thickness of up to 2.0m of Peat was recorded in two boreholes at between 1.5 and 4.4m bgs. Although no OD

heights are available for these boreholes, the peat horizons are thought to lie at similar depths to those recorded at St Luke's Square (see Figure 1; Wicks, 2008) and Tarling Road (Batchelor & Young, 2014), immediately to the north. At St Luke's Square, Wicks (2008) demonstrated the survival of palaeobotanical remains with a peat horizon recorded between -2.03 and -0.61m OD and radiocarbon dated to between 5660-5580 (middle Neolithic) and 3570-3440 cal BP (middle Bronze Age). Significantly, the pollen record from this site contains evidence for the well-documented Neolithic lime decline (e.g. Thomas & Rackham, 1996; Sidell *et al*., 2000). Peat of very similar age and elevation was identified at the Tarling Road site, where it was recorded at between *ca*. -1.5 and -2.0m OD and was radiocarbon dated to between 5730-5600 cal BP and 3630-3460 cal BP (Batchelor & Young, 2014).

No peat horizons were recorded during recent geoarchaeological investigations at the Tidal Basin Road site (Young & Batchelor, 2013a) *ca*. 250m to the south, where the Lea Valley Gravel surface lay at between *ca*. -2.5 and -3.5m OD. However, variable thicknesses and generally localised areas of peat were recorded in BGS borehole records to the north and north east of this site, and at Victoria Dock Road (Barnett *et al*., 2010), where Peat horizons radiocarbon dated to the Early Neolithic (5440-5650; 5300-4980 cal BP) and Middle Bronze Age (3350-3080 cal BP) were recorded. To the north, *ca*. 500m northwest of the present site no peat horizons were recorded at the Canning Town Regeneration Area 7/1C site (Green & Young, 2011), where the gravel surface fell northwards from -0.5 to -2.81m OD and was overlain by a single unit of inorganic alluvium. However, immediately to the north of this site at Rathbone Market (Young *et al*., 2013) a depression in the gravel surface (-3.81m OD) was recorded to the west of the site, thought likely to represent the same palaeochannel recorded by Stafford (2012) along the Ironbridge-Canning Town section of the A13 and containing peat horizons up to 3m in thickness.

In summary, the area of the Caxton Street North site is characterised by a complex stratigraphic architecture including a highly variable Lea Valley Gravel topography, subsequent deposition of Holocene alluvium and in places, variable thicknesses of peat. Where peat is recorded, it represents pockets of palaeoenvironmental and archaeological potential. The aim of the geoarchaeological investigations was thus to clarify the nature of the sub-surface stratigraphy at the site, and to evaluate the potential of the sedimentary sequences for reconstructing the environmental history of the site and its environs. In order to achieve this aim, five geoarchaeological boreholes were put down across the site (Figure 2), and a programme of deposit modelling of the major stratigraphic units was undertaken.

Figure 1: Location of (1) Caxton Works, The Moss Buildings and Goswell Bakeries, Caxton Street North, Canning Town and other geoarchaeological and archaeological sites nearby: (2) Canning Town Phase 1 (CTR12; Green & Young, 2012); (3) Rathbone Market (RBO10; Young *et al*., 2013); (4) A13 Ironbridge-Canning Town (Stafford, 2012); (5) Tidal Basin Road (Young & Batchelor, 2013); (6) 118 Victoria Dock Road (Barnett *et al*., 2010); (7) area of the Lower Lea Valley Mapping Project (Corcoran *et al*., 2011); (8) the Cable Car route ((A) North Station; (B) North Intermediate Tower; (C) North Tower (Batchelor *et al*., 2012); (9) Silvertown (BWC96; Wilkinson *et al*., 2000); (10) Fort Street (HW-FO94; Wessex Archaeology, 2000); (11) The Pitts Head (PHD12; Batchelor *et al*., 2013); (12) Fords Park Road (FDP07; Eastbury *et al*., 2009); (13) Crediton Road (CDZ07; Eastbury *et al*., 2009); (14) Butchers Road (BUZ07; Eastbury *et al*., 2009); (15) Fife Road (FlH12; Killock, 2012); (16) Butchers Road Garages (BCQ97; Eastbury *et al*., 2009); (17) Vandome Close (VAD07; Eastbury *et al*., 2009) and (18) Canning Town Phase 2 (Young, in prep.); (19) St Luke's Square (LUC07; Weale, 2008; Wicks, 2008) and (20) 105-107 Tarling Road (Batchelor & Young, 2014). *Contains Ordnance Survey data © Crown copyright and database right [2013]*

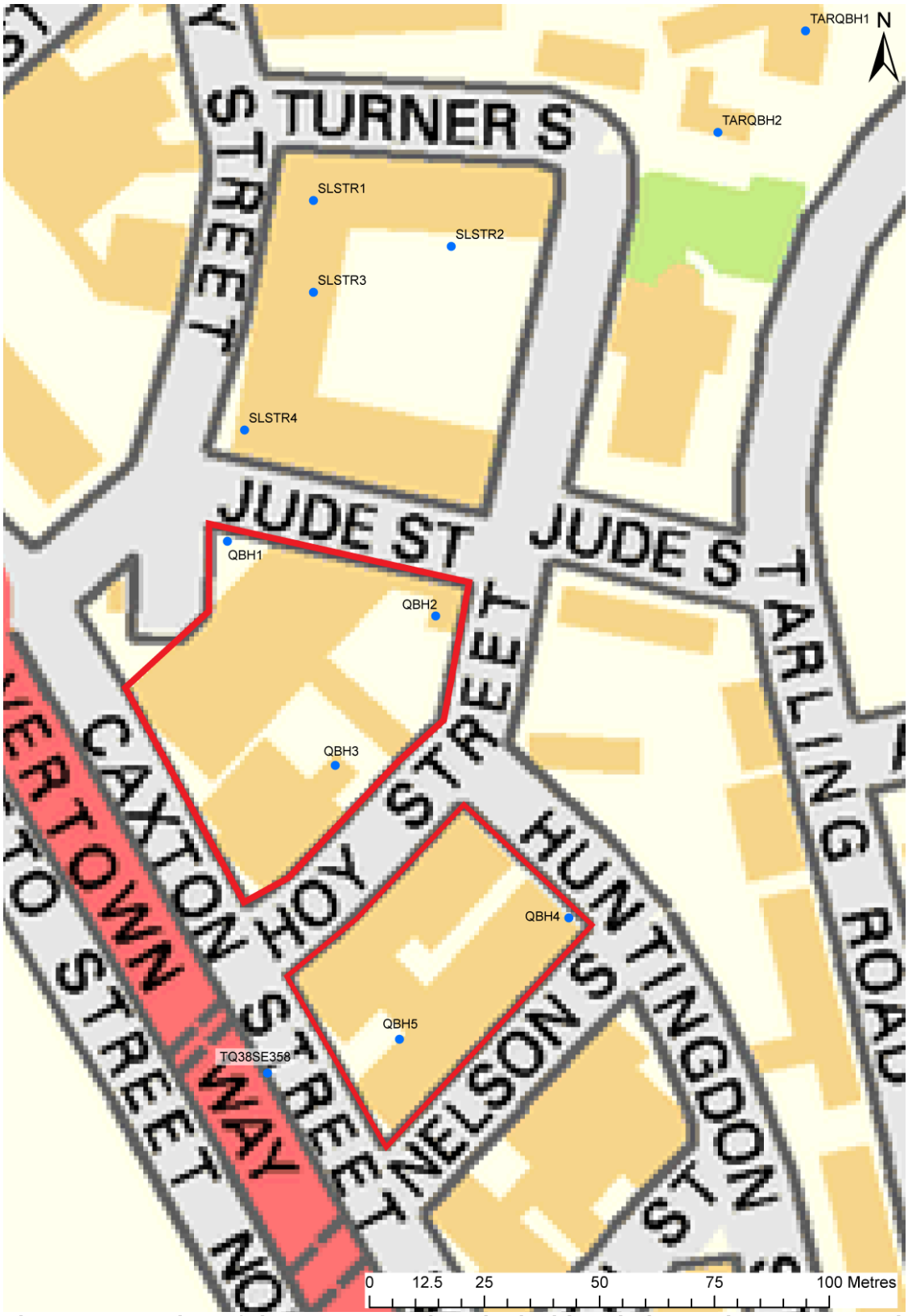

Figure 2: Location of the new geoarchaeological boreholes at the Caxton Works site, and those records used in the deposit model: existing archaeological trenches at St Luke's Square (SLS; Weale, 2008), geoarchaeological boreholes from Tarling Road (TAR; Batchelor & Young, 2014) and BGS borehole record TQ38SE358 (www.bgs.ac.uk/opengeoscience). *Contains Ordnance Survey data © Crown copyright and database right [2014]*

METHODS

Field investigations and lithostratigraphic descriptions

Five geoarchaeological boreholes (<QBH1> to <QBH5>; Figure 2) were put down within the site. The spatial attributes of each borehole were recorded using a Leica DGPS (Table 1). The lithostratigraphy of the boreholes was described in the field and laboratory 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 samples with a scalpel to remove surface contaminants; (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); and (4) recording the unit boundaries e.g. sharp or diffuse. The results are displayed in Tables 2 to 6.

Table 1: Spatial data for the new geoarchaeological boreholes at the Caxton Works, The Moss Buildings and Goswell Bakeries, Caxton Street North, Canning Town

Borehole number	Easting	Northing	Elevation (m OD)
<QBH1>	539731.3	181105.8	1.50
<QBH2>	539776.6	181089.5	1.00
<QBH3>	539754.8	181057.0	1.30
<QBH4>	539805.6	181023.8	0.80
<QBH5>	539768.7	180997.4	1.30

Deposit modelling

The reconstruction of the sedimentary architecture beneath the site was undertaken using records from the five new geoarchaeological boreholes, two geoarchaeological boreholes from Tarling Road (Young & Batchelor, 2013b) and four archaeological trenches at St Luke's Square (Weale, 2008). Relatively few British Geological Society (BGS) boreholes with recorded OD heights are available in the area of the site; only one borehole from the BGS archive (www.bgs.ac.uk/opengeoscience) is therefore included in the model (TQ38SE358). Modelling was undertaken using RockWorks v16 software. The term 'deposit modelling' describes any method used to depict the sub-surface arrangement of geological deposits, but particularly the use of computer programmes to create contoured maps or three dimensional representations of contacts between stratigraphic units. The first requirement is to classify the recorded borehole sequences into uniformly identifiable stratigraphic units. At the site five stratigraphic units were recognised: (1) Lea Valley Gravel; (2) Lower Alluvium; (3) Peat; (4) Upper Alluvium; (5) Made Ground. The results of the deposit modelling are displayed in Figures 3 to 8.

How effectively Rockworks portrays the relief features of stratigraphic contacts or the thickness of sediment bodies depends on the number of data points (boreholes) per unit area, and the extent to which these points are evenly distributed across the area of interest. Across the site a relatively good distribution of boreholes is achieved; however, the models are less reliable where the boreholes are distributed less evenly beyond the margins of the site. In some cases, 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. The portrayal is also affected by the significance assigned to these data points, in terms of the extent of the area around the point to which the data are deemed to apply. This can be predetermined for each data set, and in the present case was restricted to a maximum radius of 50m around each borehole record.

RESULTS OF THE LITHOSTRATIGRAPHIC DESCRIPTIONS AND DEPOSIT MODELLING

The results of the geoarchaeological investigations are displayed in Tables 2 to 6, with the results of the deposit modelling displayed in Figures 3 to 8. Figures 3, 4 and 6 provide surface elevation models for selected stratigraphic units, whilst Figures 5, 7 and 8 provide thickness models for the Peat, total Alluvium (incorporating the Lower Alluvium, Peat and Upper Alluvium) and Made Ground.

The basal unit at the site is a horizon of sand and gravel (interpreted as the Lea Valley Gravel; Figure 3). These sediments were deposited during the Late Devensian (10-15,000 years before present) within a high energy braided river system. The deposit model (Figure 3) demonstrates that the Gravel surface is fairly even in the area of the site and to the north, consistently recorded at between *ca*. -1.75 and -2.86m OD but with relief amplitude of approximately 1m. The Gravel surface within the site itself is recorded at between -1.80 (<QBH5>) and -2.78m OD (<QBH4>). In borehole TQ38SE358 (*ca*. 20m to the southwest) the Gravel surface is recorded at -2.05m OD, whilst to the north of the site the Gravel surface is recorded at between -1.75 and -2.03m OD (SLSTR1 to SLSTR4) at St Luke's Square (Weale, 2008), and between -2.29 (TARQBH2) and -2.86m OD (TARQBH1) at Tarling Road (Young & Batchelor, 2013b).

The Gravel is overlain in all three boreholes by a horizon of generally silty, sandy clay interpreted as the Lower Alluvium, recognised elsewhere in the Lower Thames Valley and its tributaries, the sediments of which were deposited during the Early to Mid-Holocene as the energy of flow decreased and the Lea probably became confined to a single meandering channel. Within the site this unit is between 0.91 (<QBH3>) and 0.10m thick (<QBH4> and <QBH5>), the surface lying at between *ca*. -1.70 (<QBH5>) and -2.10m OD (<QBH4>). In

boreholes <QBH4> and <QBH5> in the southern area of the site the sandy Lower Alluvium is overlain by organic Alluvium, between -1.01 and -2.10m OD (<QBH4>) and -1.12 and -1.70m OD (<QBH5>), before a transition to a generally woody, humified Peat which in the northern area of the site directly overlies the Lower Alluvium. Significantly, the Peat horizon is indicative of a transition towards a semi-terrestrial environment, supporting the growth of wetland vegetation and which may have been utilised by prehistoric people. The Peat is recorded at between *ca*. -0.2 and -1.9m OD, and is generally between 0.6 and 1.2m thick within the area of the site. The surface and approximate elevation of the Peat is consistent with that recorded at the St Luke's Square and Tarling Road sites (see Figure 4); however, the thickness of the Peat is greatest in the northern area of the site (boreholes <QBH1> and <QBH2>), whilst greater thicknesses are recorded north of the site at St Luke's Square (see Figure 5), where it is recorded at up to 1.5m thick (SLSTR1).

The peat is overlain in all five boreholes by a horizon of generally silty or clayey Alluvium, described here as the Upper Alluvium, indicative of sediment accumulation on the floodplain at a distance from any active channels. The surface of the Upper Alluvium is recorded at between 1.4 <QBH1> and -0.76m OD (<QBH3>) (Figure 6). In general, the thickness of the Made Ground is greater towards the centre and south of the site, where the contact between the Alluvium and Made Ground lies at a lower elevation and is indicative of greater truncation of the natural sequence in this area. This is reflected in the thickness of the total Alluvium (Figure 7) and Made Ground across the site (Figure 8). In the northern area of the site the Made Ground is recorded as 0.1m thick in <QBH1> and 0.75m thick in <QBH2>, whilst towards the centre of the site it is 2.06m thick in the area of borehole <QBH3> and between 1.0 and 1.12m thick in boreholes <QBH4> and <QBH5> respectively.

Table 2: Lithostratigraphic description of borehole <QBH1>, Caxton Street North, Canning Town

Depth (m OD)	Depth (m bgs)	Composition
1.50 to 1.40	0.00 to 0.10	Made ground
1.40 to 1.05	0.10 to 0.45	2.5Y 4/1; As4 Ag+; dark grey clay with a trace of silt. Diffuse contact in to:
1.05 to 0.75	0.45 to 0.75	2.5Y 4/1; As3 Ag1; dark grey silty clay. Diffuse contact in to:
0.75 to 0.50	0.75 to 1.00	2.5Y 4/1; As2 Ag2; dark grey silt and clay.
0.50 to 0.38	1.00 to 1.12	2.5Y 4/1; As3 Ag1; dark grey silty clay with some iron staining. Diffuse contact in to:
0.38 to 0.20	1.12 to 1.30	10YR 3/2; As2 Ag2 Sh+; very dark greyish brown silt and clay with a trace of organic matter. Diffuse contact in to:
0.20 to -0.41	1.30 to 1.91	10YR 3/1; Ag2 Sh1 Dl1; very dark grey organic silt with detrital wood. Diffuse contact in to:
-0.41 to -0.50	1.91 to 2.00	10YR 2/1; Sh2 Ag1 Tl1 Th+; humo. 3/4; black well to

		very well humified silty wood peat with a trace of herbaceous material.
-0.50 to -0.77	2.00 to 2.27	10YR 3/1; Ag3 Sh1 Dl+ Dh+ Dl+; very dark grey organic silt with traces of detrital herbaceous material and detrital wood. Sharp contact in to:
-0.77 to -1.50	2.27 to 3.00	10YR 2/1; Sh2 Ag1 Tl^{2}1 Th+; humo. 3; black well humified silty wood peat with a trace of herbaceous material.
-1.50 to -1.96	3.00 to 3.46	10YR 3/1; Ag2 Gg1 Sh1 Ga+; very dark grey organic gravelly silty with a trace of sand. Diffuse contact in to:
-1.96 to -2.50	3.46 to 4.00	Gg2 Ga2; sand and gravel. Clasts are flint 5-40mm in diameter, sub-rounded to sub-angular. Some horizontal beds of sandier material (Ga3 Gg1; gravelly sand).

Table 3: Lithostratigraphic description of borehole <QBH2>, Caxton Street North, Canning Town

Depth (m OD)	Depth (m bgs)	Composition
1.00 to 0.25	0.00 to 0.75	Made ground
0.25 to 0.00	0.75 to 1.00	10YR 3/1; As2 Ag2; very dark grey silt and clay.
0.00 to -0.68	1.00 to 1.68	10YR 3/1; Ag2 As1 Dl1; very dark grey clayey silt with detrital wood. Sharp contact in to:
-0.68 to -1.40	1.68 to 2.40	10YR 2/1; Sh2 Ag1 Tl^{2}1 Th+; humo. 3; black well humified silty wood peat with a trace of herbaceous material. Diffuse contact in to:
-1.40 to -2.60	2.40 to 2.60	10YR 4/1; Ag2 Dl1 Sh1; dark grey organic silt with detrital wood. Sharp contact in to:
-1.60 to -1.86	2.60 to 2.86	10YR 2/1; Sh2 Ag1 Tl^{2}1 Th+; humo. 3; black well humified silty wood peat with a trace of herbaceous material. Sharp contact in to:
-1.86 to -1.97	2.86 to 2.97	2.5Y 4/1; As2 Ag1 Ga1 Gg+; dark grey silty sandy clay with occasional gravel clasts. Diffuse contact in to:
-1.97 to -2.05	2.97 to 3.05	Gg3 Ga1 Ag+; sandy gravel with a trace of silt. Clasts are flint 5-40mm in diameter, sub-rounded to sub-angular.

Table 4: Lithostratigraphic description of borehole <QBH3>, Caxton Street North, Canning Town

Depth (m OD)	Depth (m bgs)	Composition
1.30 to 0.30	0.00 to 1.00	Made ground
0.30 to -0.76	1.00 to 2.06	Made ground/redeposited alluvium. Sharp contact in to:
-0.76 to -0.97	2.06 to 2.27	2.5Y 4/1; Ag3 As1; dark grey clayey silt. Sharp contact in to:
-0.97 to -1.79	2.27 to 3.09	2.5YR 2.5/1; Sh3 Tl^{2}1 Th+; humo. 3; reddish black well humified wood peat with a trace of herbaceous material. Sharp contact in to:
-1.79 to -2.37	3.09 to 3.67	2.5Y 4/1; Ag3 As1 Ga+ Dl+; grey clayey silt with traces of sand and detrital wood. Sharp contact in to:
-2.37 to -2.70	3.67 to 4.00	2.5Y 5/1; As2 Ag1 Ga1; grey sandy silty clay.
-2.70 to -2.75	4.00 to 4.05	Gg3 Ga1; sandy gravel. Clasts are flint 10-40mm in diameter, sub-rounded to sub-angular.

Table 5: Lithostratigraphic description of borehole <QBH4>, Caxton Street North, Canning Town

Depth (m OD)	Depth (m bgs)	Composition
0.80 to -0.20	0.00 to 1.00	Made Ground
-0.20 to -0.39	1.00 to 1.19	7.5YR 4/2; As3 Ag1; brown silty clay with some iron staining (orange mottling). Sharp contact in to:
-0.39 to -1.01	1.19 to 1.81	7.5YR 2.5/1; Sh2 Ag1 Tl^{2}1; humo. 3; black well humified silty woody peat. Diffuse contact in to:
-1.01 to -2.10	1.81 to 2.90	7.5YR 3/2; Ag3 Sh1 Dl+; dark brown organic silt with a trace of detrital wood. Sharp contact in to:
-2.10 to -2.20	2.90 to 3.00	Gley1 4/N; Ag3 Ga1 Gg+ Dl+; dark grey sandy silt with occasional gravel clasts and a trace of detrital wood. Clasts mainly flint, sub-angular to sub-rounded.
-2.20 to -2.78	3.00 to 3.58	Gley1 4/10Y; Ag2 Ga1 Gg1 Dh+ Dl+; dark greenish grey sandy silt with occasional gravel clasts and a trace of detrital wood. Clasts predominantly flint, sub-angular to sub-rounded, up to 40mm in diameter. Sharp contact in to:
-2.78 to -3.20	3.58 to 4.00	Gg3 Ga1; sandy gravel. Clasts predominantly flint, sub-angular to well-rounded, up to 50mm in diameter.

Table 6: Lithostratigraphic description of borehole <QBH5>, Caxton Street North, Canning Town

Depth (m OD)	Depth (m bgs)	Composition
1.30 to 0.30	0.00 to 1.00	Made Ground
0.30 to 0.18	1.00 to 1.12	Made Ground/disturbed Alluvium
0.18 to -0.24	1.12 to 1.54	10YR 4/2; As3 Ag1; dark greyish brown silty clay with some iron staining and small iron nodules. Sharp contact in to:
-0.24 to -0.63	1.54 to 1.93	7.5YR 2.5/1; Sh2 Ag1 Tl^{2}1 Th+; humo. 2; black moderately humified silty woody peat with traces of herbaceous material. Sharp contact in to:
-0.63 to -0.70	1.93 to 2.00	10YR 4/2; Ag2 As1 Dl1 Dh+; dark greyish brown clayey silt with detrital wood and a trace of detrital herbaceous material.
-0.70 to -1.12	2.00 to 2.42	7.5YR 2.5/1; Sh2 Tl^{2}1 Ag1 Th+; humo. 2; black moderately humified silty woody peat with traces of herbaceous material. Sharp contact in to:
-1.12 to -1.70	2.42 to 3.00	7.5YR 3/1; Ag2 Sh1 Dl1; very dark grey organic silt with detrital wood.
-1.70 to -1.80	3.00 to 3.10	Gley1 5/10Y; Gs2 Ga2 Ag+ Gg+; dark greenish grey coarse and fine sand with a trace of silt and occasional gravel clasts <5mm in diameter.
-1.80 to -2.70	3.10 to 4.00	Gg3 Ga1; sandy gravel. Clasts predominantly flint, sub-angular to well-rounded, up to 50mm in diameter. Some horizontal bedding of variably sandy/silty material.

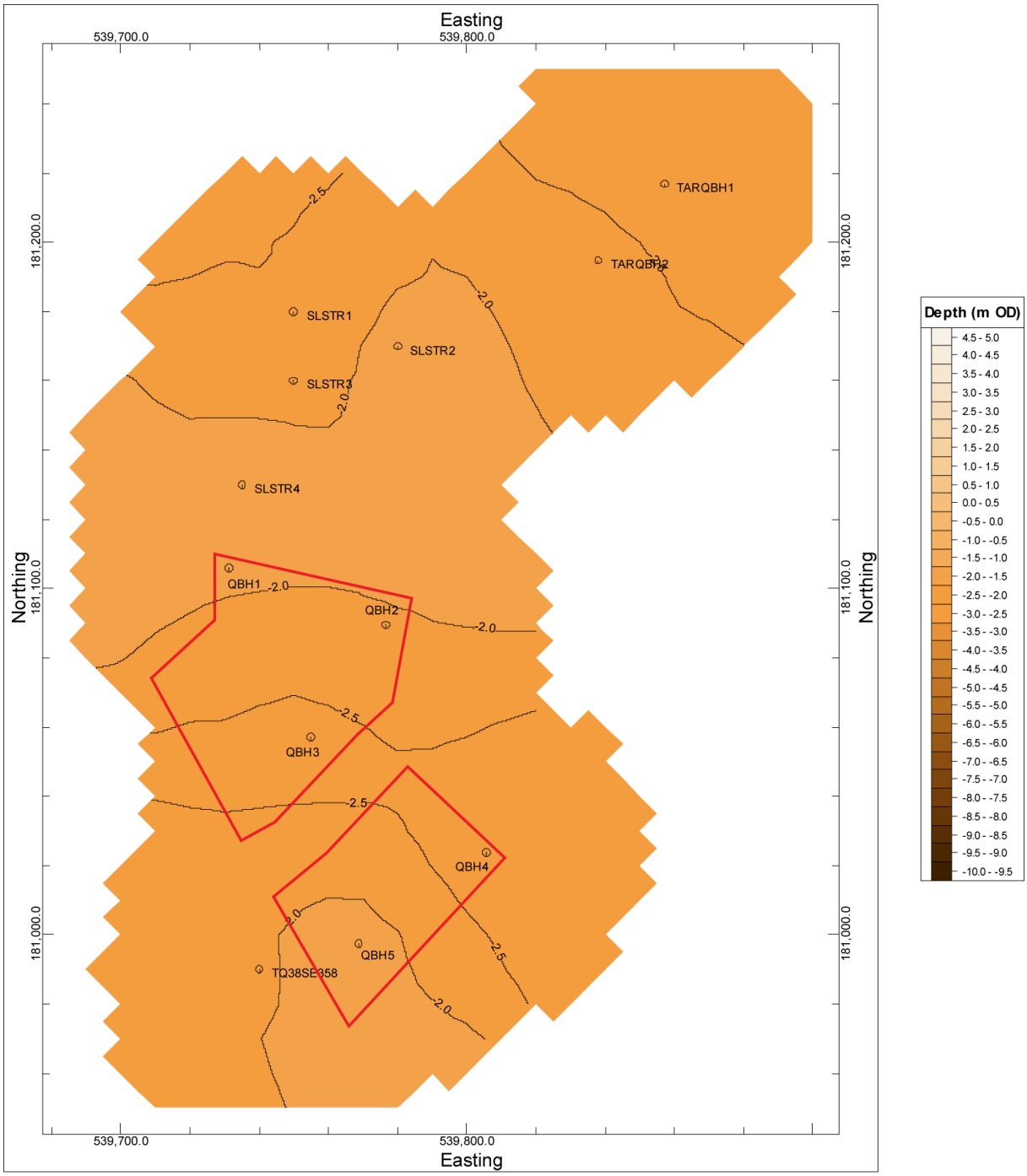

Figure 3: Surface of the Lea Valley Gravel (m OD)

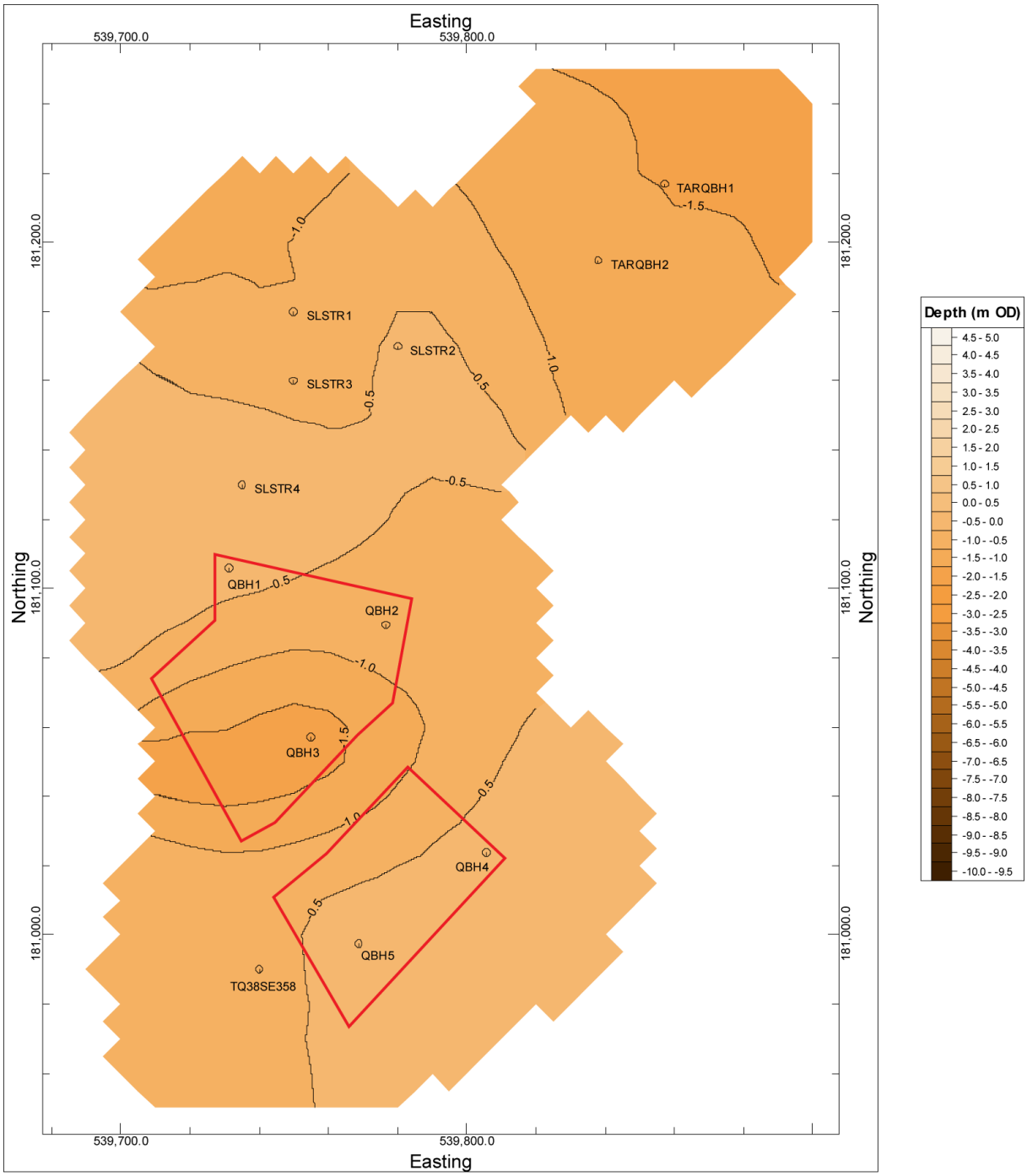

Figure 4: Surface of the Peat (m OD)

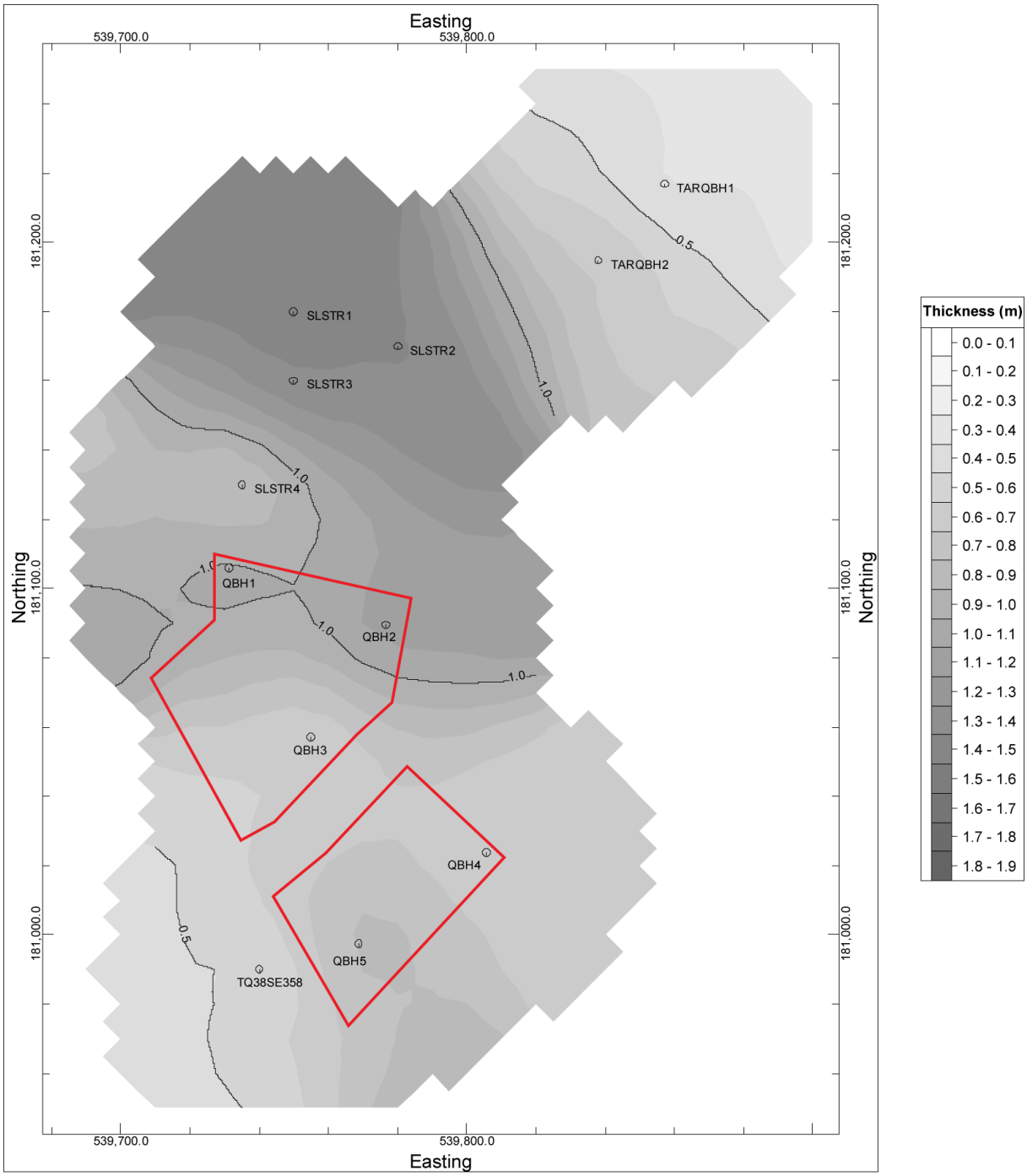

Figure 5: Thickness of Peat (m)

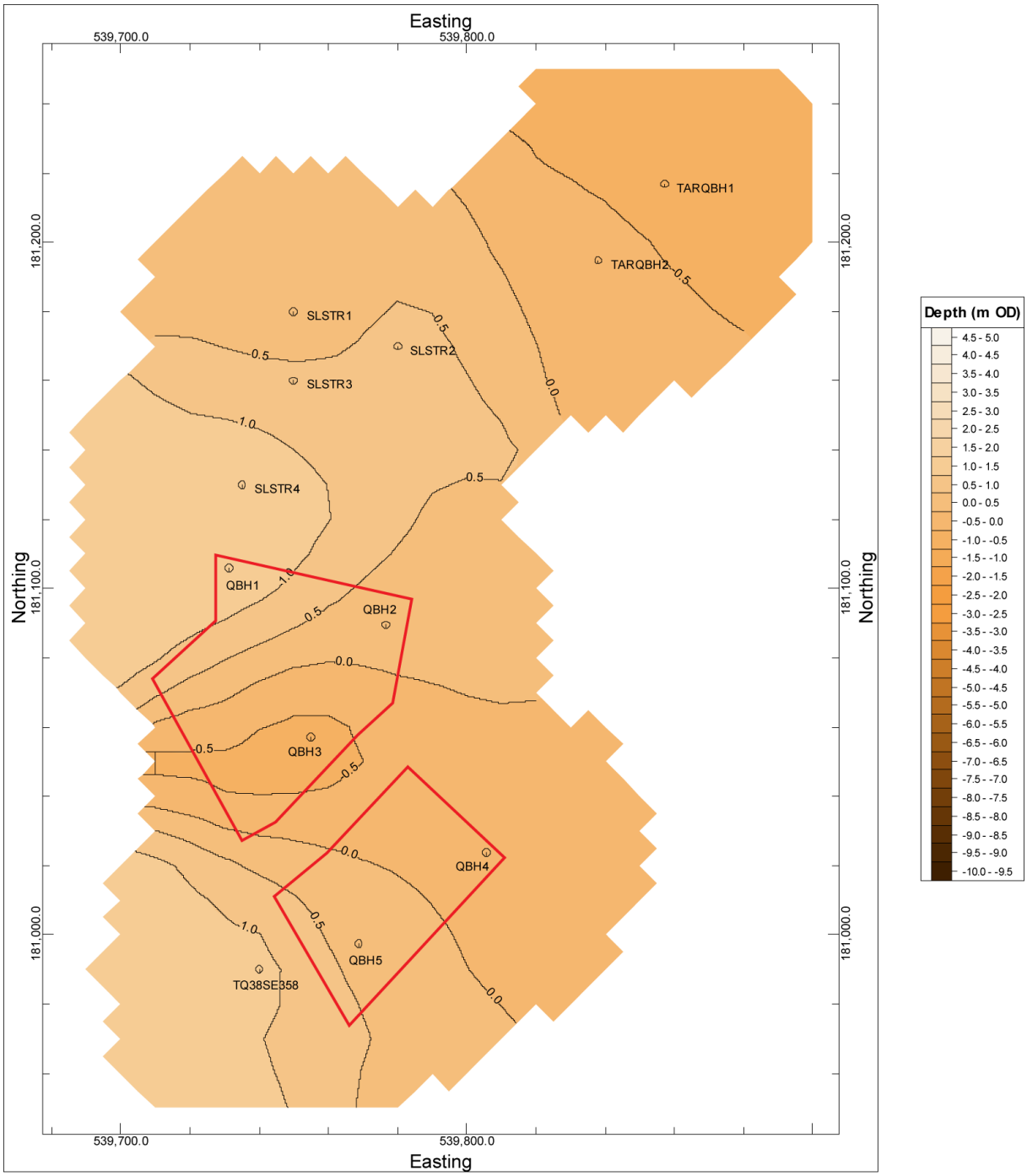

Figure 6: Surface of the Upper Alluvium (m OD)

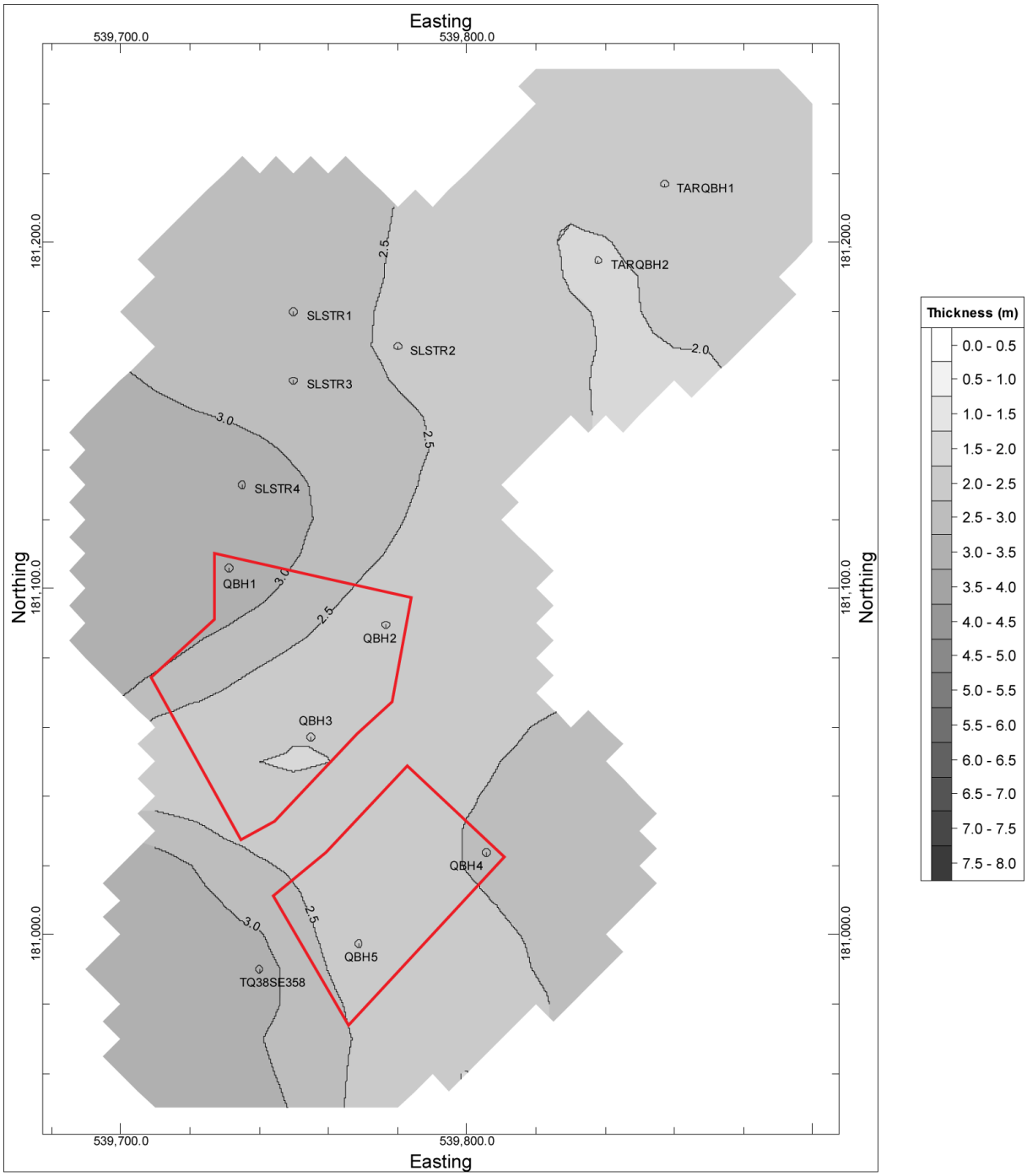

Figure 7: Thickness of Alluvium (incorporating Lower Alluvium, Peat and Upper Alluvium) (m)

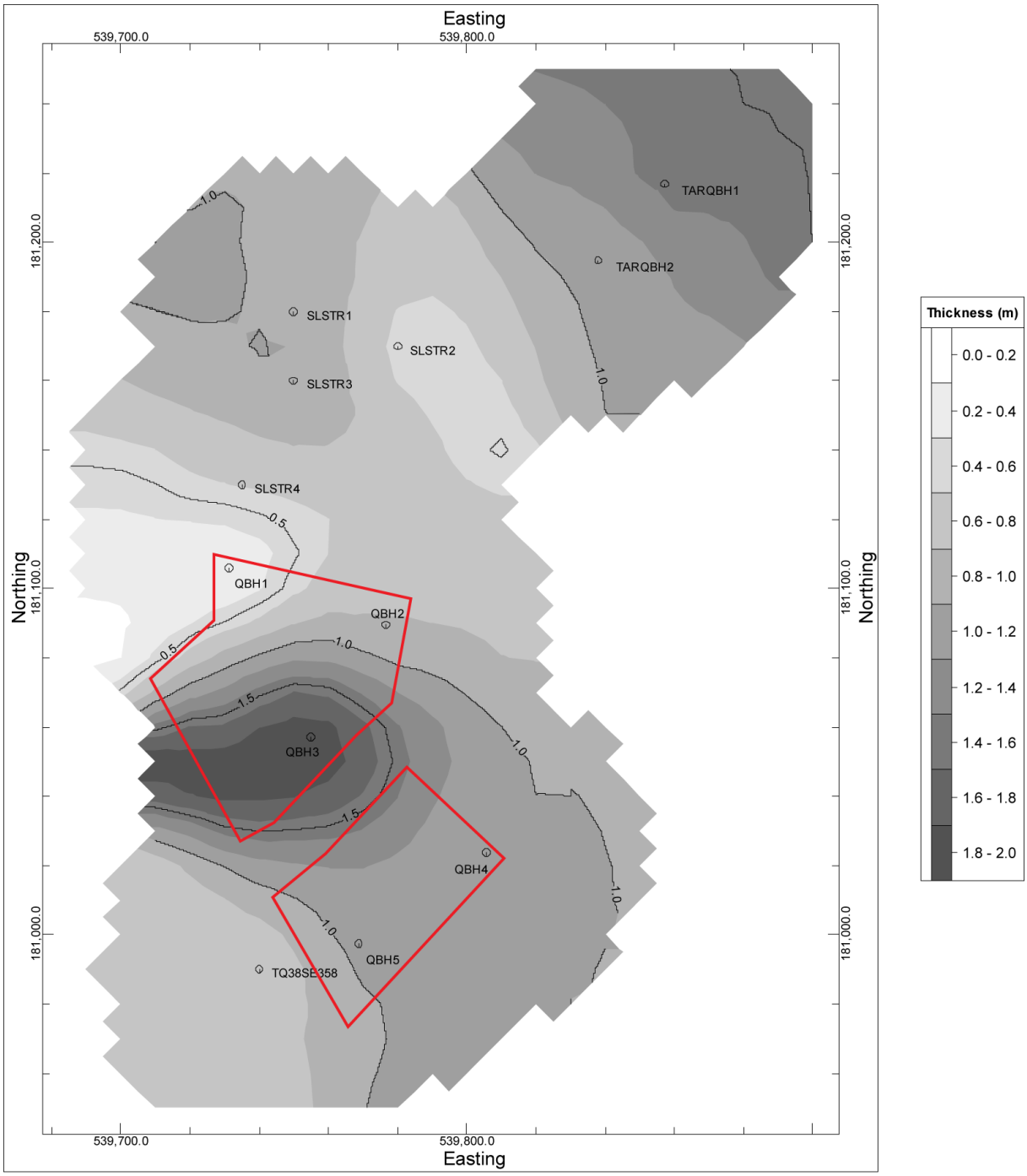

Figure 8: Thickness of Made Ground (m)

DISCUSSION

The surface of the Late Devensian Lea Valley Gravel at the Caxton Works site is the platform upon which Holocene Alluvial sediments, including Peat, have accumulated. Elsewhere in the valley of the Middle and Lower Thames, the surface of the Late Devensian Lea Valley/Shepperton Gravel is often uneven (Gibbard, 1985; 1994) with relief features that can be identified as longitudinal gravel bars and palaeochannels with a relief amplitude commonly of 3-4m and in some places up to 6m. Corcoran ***et al.'s*** (2011) investigations indicate that the Gravel surface in Landscape Zone 1.3 (within which the Caxton Works site lies) generally ranges between -2.0 and -4.0m OD. The Gravel surfaces recorded during the geoarchaeological investigations are generally within or slightly above this range, lying at between *ca*. -1.75 and -2.86m OD and generally consistent with those levels recorded to the north at St Luke's Square (-1.75 to -2.03m OD; Weale, 2008) and Tarling Road (-2.29 to -2.86m OD; Batchelor & Young, 2014).

The results of the borehole investigations and deposit modelling at the Caxton Works site have demonstrated the presence of significant thicknesses of Peat, generally recorded at between *ca*. -0.2 and -1.9m OD and again consistent with Peat horizons recorded at the nearby St Luke's Square (Wicks, 2008; -2.03 to -0.61m OD) and Tarling Road sites (Batchelor & Young, 2014; -1.5 to -2.0m OD). At St Luke's Square the Peat was radiocarbon dated to between 5660–5580 (middle Neolithic) and 3570-3440 cal BP (middle Bronze Age) (Wicks, 2008). Significantly, the pollen record from this site contains evidence for the well-documented Neolithic lime decline (e.g. Thomas & Rackham, 1996; Sidell *et al*., 2000). Peat of very similar age and elevation was identified at the Tarling Road site, where it was recorded at between *ca*. -1.5 and -2.0m OD and radiocarbon dated to between 5730-5600 cal BP and 3630-3460 cal BP (Batchelor & Young, 2014). Here, potential evidence of human activity was recorded in conjunction with a potential decline in elm populations towards the base of the Peat (possible evidence of the early Neolithic elm decline), whilst a decline in lime was recorded towards the middle of the Peat, with persuasive evidence of human activity and a saline influence recorded towards the top of the Peat.

No peat horizons were recorded during geoarchaeological investigations at the Tidal Basin Road site (Young & Batchelor, 2013a) *ca*. 200m to the southeast, where the Lea Valley Gravel surface lay at between *ca*. -2.5 and -3.5m OD. However, variable thicknesses and generally localised areas of peat were recorded in BGS borehole records to the north and north east of this site, and at Victoria Dock Road (Barnett *et al*., 2010), where Peat horizons radiocarbon dated to the Early Neolithic (5440-5650; 5300-4980 cal BP) and Middle Bronze Age (3350-3080 cal BP) were recorded. Approximately 600m to the north of the present site

no peat horizons were recorded at the Canning Town Regeneration Area 7/1C site (Green & Young, 2011), where the gravel surface fell northwards from -0.5 to -2.81m OD and was overlain by a single unit of inorganic Alluvium. However, immediately to the north of this site at Rathbone Market (Young *et al*., 2013) a depression in the gravel surface (-3.81m OD) was recorded to the west of the site, thought likely to represent the same palaeochannel recorded by Stafford (2012) along the Ironbridge-Canning Town section of the A13 and containing peat horizons up to 3m in thickness.

CONCLUSION AND RECOMMENDATIONS

The aim of the geoarchaeological investigations was to clarify the nature of the sub-surface stratigraphy at the site, and to evaluate the potential of the sedimentary sequences for reconstructing the environmental history of the site and its environs. The results of the investigations have demonstrated that both the surface of the Lea Valley Gravel and the elevation of the Peat at the Caxton Works site are consistent with those recorded at St Luke's Square immediately to the north (Weale, 2008) and Tarling Road *ca*. 100m to the northeast (Batchelor & Young, 2014).

The Caxton Works site thus has good potential for providing a detailed reconstruction of the environmental history of the site and its environs. Given that environmental archaeological investigations have been undertaken in close proximity to the site, a basic environmental archaeological assessment of one sequence from the Caxton Works site is recommended. This basic assessment should incorporate: (1) rangefinder radiocarbon dating, to provide an age for the onset and cessation of peat formation; and (2) assessment of the pollen remains to provide a provisional reconstruction of the vegetation history. The environmental assessment will also highlight any indications of nearby human activity, and provide recommendations for further analysis (if necessary).

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APPENDIX 1: OASIS

Project details

Project name	CAXTON WORKS, THE MOSS BUILDINGS AND GOSWELL BAKERIES, CAXTON STREET NORTH, CANNING TOWN
Short description of the project	Five geoarchaeological boreholes were put down to investigate the sub-surface stratigraphy of the site. A sequence of River Terrace Gravels was recorded overlain by Holocene alluvium (including Peat) capped by Made Ground. The surface of the River Terrace Gravels (the Lea Valley Gravel) and the elevation of the Peat was consistent with that recorded on sites immediately to the north and northeast. The sequence has good potential for providing a detailed reconstruction of the environmental history of the site and its environs. Further work was recommended.
Project dates	Start: 10-05-2014 End: 26-08-2014
Previous/future work	No / Yes
Any associated project reference codes	CSN14 - Sitecode
Type of project	Environmental assessment
Site status	None
Monument type	PEAT Late Prehistoric
Significant Finds	PEAT Late Prehistoric
Survey techniques	Archaeology

Project location

Country	England
Site location	GREATER LONDON NEWHAM CANNING TOWN CAXTON WORKS, THE MOSS BUILDINGS AND GOSWELL BAKERIES, CAXTON STREET NORTH, CANNING TOWN
Postcode	E16 1JL
Study area	0 Square metres
Site coordinates	TQ 525600 174700 50.9358944747 0.171487203916 50 56 09 N 000 10 17 E Point
Height OD / Depth	Min: -0.76m Max: 1.40m

Project creators

Name of Organisation	Quaternary Scientific (QUEST)
Project brief originator	CgMs Consulting
Project design originator	D.S. Young
Project	D.S. Young

director/manager	
Project supervisor	D.S. Young
Type of sponsor/funding body	Developer

Project archives

Physical Archive recipient	LAARC
Digital Archive recipient	LAARC
Paper Archive recipient	LAARC

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	CAXTON WORKS, THE MOSS BUILDINGS AND GOSWELL BAKERIES, CAXTON STREET NORTH, CANNING TOWN (NGR: TQ 397 810): GEOARCHAEOLOGICAL DEPOSIT MODEL REPORT
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