FRESH WHARF ESTATE
Fresh Wharf Road
London IG11

London Borough of Barking and Dagenham

Report on a geoarchaeological evaluation

February 2018

MOLA

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FRESH WHARF ESTATE
FRESH WHARF ROAD
BARKING

London Borough of Barking and Dagenham

Geoarchaeological evaluation
interim report

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Summary

This report presents the initial results of a geoarchaeological window samples and deposit model exercise carried out by Museum of London Archaeology (MOLA) on the site of Fresh Wharf Estate, Barking. The report was commissioned by from MOLA by Ramboll.

The report summarises the archaeological potential of the sediments revealed in boreholes taken across the site and makes recommendations for further work. By modelling the buried stratigraphy and preliminarily reconstructing the evolving landscape of the site, five deposits or facies of varying archaeological and palaeoenvironmental potential are identified and the impact of the proposed development on the deposits of interest is assessed.

The site is situated on the western bank of the River Roding, a tidal tributary of the Thames. The underlying deposits consist of undulating Pleistocene floodplain gravels lying at around -1.46m OD at the lowest point although up to around 1m above OD in the north of the site. The gravels are covered by a layer of Holocene floodplain deposits (up to 3.8 thick) consisting of a lower and upper alluvium sandwiching a layer of peat in places. The site is sealed by 2.5-5.5m of made ground.

The decision on any further work rests with the Local Authority.

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1 Introduction

1.1 Site background

1.1.1 The site comprises the Fresh Wharf industrial estate which lies within the London Borough of Barking and Dagenham. It is bounded by Highbridge Road to the North, Barking Creek to the East, Quay Road to the South and Fleet Road, to the west. The centre of the site lies at National Grid reference 543,889 183,639 (Fig 1). The site covers approximately 4.4 hectares at an elevation varying from approximately 5m AOD at the southern boundary to 3m AOD at the northwest corner.

1.1.2 An Overarching Written Scheme of Investigation (OAWSI) was previously prepared by Museum of London Archaeology (MOLA), and an earlier Desk Based Assessment (DBA) was prepared by Wessex Archaeology, both of which cover the whole of the site (MOLA 2018; Wessex Archaeology 2000). These documents should be referred to for information on the natural geology, archaeological and historical background of the site, and the initial interpretation of its archaeological potential.

1.2 Planning and legislative framework

1.2.1 The Planning and legislative background to the site has been adequately summarised in the OAWSI (MOLA 2018).

1.3 Origin and scope of the report

1.3.1 This report has been commissioned from MOLA by Ramboll on behalf of the client. In consultation with GLAAS the OAWSI proposed a three stage programme of works. This document reports on the first stage (Stage 1) which consists of a geoarchaeological field evaluation and the production of a geoarchaeological deposit model (MOAL 2018, 15).

1.3.2 This geoarchaeological report has been prepared within the terms of the relevant standards specified by the Chartered Institute of Archaeologists (CIFA 2014).

1.3.3 A geoarchaeological deposit model provides information about the archaeological resource by examining geotechnical data relating to the site. The results are used to assess the potential of the deposits preserved on the site for the survival of archaeology and palaeoenvironmental remains.

1.3.4 A deposit model can be particularly useful when dealing with prehistoric floodplain archaeology (Howard and Macklin 1999), as in such areas as the Thames floodplain, archaeological deposits and ancient landsurfaces are likely to be deeply buried below historic alluvium.

1.3.5 A geoarchaeological deposit model is also of value when only a low level of cultural remains is likely to be preserved in the alluvium on the site, but there is likely to be good potential for the reconstruction of the prehistoric and historic landscape inhabited by people in the past from soils, sediments and their ecological inclusions. In these cases the assessment can help predict where palaeoenvironmental deposits (with the potential for reconstructing past landscapes) and indirect evidence of human activity are likely to exist. Such topographical data, providing information about past environments is increasingly required by English Heritage, in order to better understand the distribution of archaeological sites and the activities of people in the past (English Heritage (now Historic England) 2002 and 2004).

1.3.6 *Note: within the limitations imposed by dealing with historical material, maps and geotechnical data the information in this document is, to the best knowledge of the author and MOLA, correct at the time of writing. Further archaeological investigation, more information about the nature of the buildings, past or present, and/or more detailed proposals for redevelopment may require changes to all or parts of the document.*

1.4 Aims and objectives

1.4.1 All research is undertaken within the priorities established in the Museum of London's (2002) *A research framework for London Archaeology*.

1.4.2 The aim of the window sampling and deposit modelling exercise is to provide information about the palaeoenvironment and its topography to identify areas of higher and lower archaeological potential. The deposit model will draw on the data from the window sampling exercise as well as data from the previous geo-environmental and geo-technical assessment of the site (RSK 2014) and historical BGS data. These data will be used to create transects of the buried topography on or near the site and will illustrate the survival of the Holocene sediments across the site by means of a two dimensional cross-sections (Fig 3 and Fig 4) and three dimensional surfaces (Fig 5).

1.4.3 A number of broad objectives and research questions were identified for the Stage 1 geoarchaeological evaluation of the site:

- What are the levels of the natural deposits and how do these compare to adjacent sites?
- Is there any evidence of surviving prehistoric or later soils formed within the top of the Thames floodplain alluvial deposits?
- Is there any Holocene peat or alluvial deposits surviving in the cores?
- What are the latest deposits identified?

2 Historical and topographic background

2.1 Archaeological and historical background

2.1.1 The archaeological and historical background to the site is adequately described in the previous DBA (Wessex Archaeology 2000), and is summarised in the OAWSI (MOLA 2018).

2.2 Site location and topography

2.2.1 The site lies on the floodplain of the River Roding/Barking Creek, a left (north) bank tributary of the Thames. Geological mapping indicates the site lies on Made Ground above alluvium overlying bedrock of the London Clay Formation, with Pleistocene deposits of the Taplow Gravels mapped either side of the river floodplain. In general, the deposit sequence within the floodplain consists of the basal floodplain gravels overlain by a series of minerogenic sands and silt/clays interstratified with peat deposits, overlain in places by Made Ground (BGS 1996). Ground levels are relatively uniform, at around 5.0m above Ordnance Datum (OD).

3 Geoarchaeological investigation

3.1 Window sampling

3.1.1 The geoarchaeological window sampling was carried out according to the OAWSI (MOLA 2018).

3.1.2 During January 2018, five purposive geoarchaeological window samples (numbered MOLA-BH1 to MOLA-BH5) were sunk at the site. The window samples were put down at predetermined locations as shown in Fig 2.

3.1.3 Sampling was carried out using a Terrier rig operated by a subcontractor (PJ Drilling Ltd) under the supervision of a MOLA geoarchaeologist. Continuous samples, retained in 1m-long plastic liners were collected through the alluvial deposits at the site down to the surface of the Pleistocene floodplain gravels. The sedimentary sequence in each borehole was logged on site, and undisturbed core samples of alluvial and/or organic strata were sealed, labelled and taken to the MOLA geoarchaeology laboratory.

3.1.4 Recovery of Holocene alluvial sediments (i.e. strata between the made ground and the river terrace/floodplain gravels) was, overall fairly good in MOLA-BH1, MOLA-BH2 and MOLA-BH4. Sample recovery was poor in MOLA-BH3 due to extremely wet ground conditions – possibly due to a perched water table – although useful information about the thickness of the made ground and the elevation of the Early Holocene surface was still obtained from this borehole. The recovery of sediments in MOLA-BH5 was generally good, however the Holocene alluvial sediments were found to have been heavily truncated in this location.

3.1.5 Since all boreholes reached the floodplain gravels, useful data was collected to augment the MOLA database for modelling the Early Holocene (Mesolithic) surface across London.

3.1.6 Sediment logs from the window sampling exercise are provided in the tables below (Table 1 to Table 5).

Table 1: MOLA-BH1 log

OD height:	5.22	Easting:	543936.27	Northing:	183420.58	
Top (m bgl)	**Base (m bgl)**	**Top (m OD)**	**Base (m OD)**	**Thickness**	**Description**	**Interpretation**
0.00	3.80	**0.00**	**-3.80**	3.80	Very dark grey brown sandy clay with bricks, concrete cobbles and boulders, decaying wood etc.	Made ground
3.80	5.50	**-3.80**	**-5.50**	1.70	Dark grey silt/clay.	Alluvium
5.50	6.50	**-5.50**	**-1.28**	1.00	Very dark brown silty wood peat.	Wooded wetland
6.50	Unknown depth	**-6.50**	**Unknown depth**	-	Dark grey angular flint gravel.	Pleistocene braidplain deposit

Table 2: MOLA-BH2 log.

OD height:	4.74	Easting:	543865.95	Northing:	183468.65	
Top (m bgl)	**Base (m bgl)**	**Top (m OD)**	**Base (m OD)**	**Thickness**	**Description**	**Interpretation**
0.00	3.60	**4.74**	**1.14**	3.60	Gravel, concrete and CBM pebbles, cobbles and boulders, broken glass and decaying wood in dark greyish brown sandy silt/clay matrix.	Made ground
3.60	6.20	**1.14**	**-1.46**	2.60	Pale greenish grey to dark greenish grey silt/clay. Becoming very wet below 4.00m bgl.	Alluvium
6.20	Unknown depth	**-1.46**	**Unknown depth**	-	Dark grey very coarse sandy gravel of rounded to subangular flint pebbles and granules.	Pleistocene braidplain deposit

Table 3: MOLA-BH3 log.

OD height:	4.61	Easting:	543931.24	Northing:	183519.75	
Top (m bgl)	**Base (m bgl)**	**Top (m OD)**	**Base (m OD)**	**Thickness**	**Description**	**Interpretation**
0.00	3.30	**4.61**	**1.31**	3.30	Concrete over CBM cobbles, concrete pebbles, cobbles and boulders and decayed wood in a matrix of loose black very sandy silt/clay. Strong hydrocarbon odour.	Made ground
3.30	6.40	**1.31**	**-1.79**	3.10	Soft very wet grey silt/clay. Recovery poor.	Alluvium
6.40	Unknown depth	**-1.79**	**Unknown depth**	-	Grey very coarse sandy flint gravel.	Pleistocene braidplain deposit

Table 4: MOLA-BH4 log.

OD height:	5.23	Easting:	543969.49	Northing:	183527.82	
Top (m bgl)	**Base (m bgl)**	**Top (m OD)**	**Base (m OD)**	**Thickness**	**Description**	**Interpretation**
0.00	2.50	**5.23**	**2.73**	2.50	Concrete over gravel, CBM, concrete etc in black sandy clay matrix.	Made ground
2.50	5.50	**2.73**	**-0.27**	3.00	Firm very dark grey silt/clay with rare fine gravel (coarse sand to granule sized) inclusions and fragment of clay pipe at 4m bgl. Below 4m bgl: becoming dark grey soft silt/clay with rare organic fibres (rootlets).	Alluvium
5.50	6.30	**-0.27**	**-1.07**	0.80	Dark greyish brown silty friable humified peat with frequent woody remains.	Wooded wetland
6.30	Unknown depth	**-1.07**	**Unknown depth**	-	Grey coarse sandy gravel of subrounded granules and pebbles of flint, and rare rounded quartz pebbles.	Pleistocene braidplain deposit

Table 5: MOLA-BH5 log.

OD height:	3.56	Easting:	543839.46	Northing:	183630.87	
Top (m bgl)	**Base (m bgl)**	**Top (m OD)**	**Base (m OD)**	**Thickness**	**Description**	**Interpretation**
0.00	1.00	**3.56**	**2.56**	1.00	Topsoil over brick rubble.	Made ground
1.00	3.60	**2.56**	**-0.04**	2.60	Black very wet gravelly sandy silt clay with occasional decaying wood chips.	
3.60	4.00	**-0.04**	**-0.44**	0.40	Black slightly fibrous organic mud with pockets of greenish grey silt/clay.	Alluvium
4.00	Unknown depth	**-0.44**	**Unknown depth**	-	Dark grey subangular flint pebbles in some coarse sand matrix.	Pleistocene braidplain deposit

3.2 Deposit model

3.2.1 In order to understand the archaeological and sedimentary sequence existing on the site a geoarchaeological deposit model has been generated using data from a

combination of sources, including the purposive geoarchaeological window samples and previous ground investigations in and around the site. Details of the data sources consulted are given in Table 6.

Table 6: Sources of data used in the deposit model.

Source	Data
MOLA (this report)	Five purposive geoarchaeological window samples drilled at the site in January 2018.
2014 site investigations (RSK 2014)	Six cable-percussion boreholes (max 25m bgl), twelve window samples (max 4m bgl), seven test pits (max 3m bgl) from within the site.
British Geological Survey (BGS)	Total of thirty-two borehole logs from the vicinity of the site (200m radius), of which twenty-six were associated with elevation data and therefore suitable for inclusion in the deposit model. No data points from within the site.

3.2.2 To aid the description and understanding of the deposits across the site they have been grouped into 'facies' or deposits of similar characteristics as can be seen in the transects across the site (Fig 3 and Fig 4). A summary of the minimum and maximum elevation and thickness of each of the main facies is given in Table 7.

Table 7: Summary statistics of main stratigraphic units.

Stratigraphic unit	**Maximum elevation top** (m OD)	**Minimum elevation base** (m OD)	**Minimum thickness** (m) [where present]	**Maximum thickness** (m)	**Average thickness** (m) [where present]
Made Ground (facies 5)	7.02	-0.49	2.5	5.5	3.59 (n=11, σ=0.78)
Upper Alluvium (facies 4)	4.08	-1.792	0.4	3.1	1.95 (n=11, σ=0.98)
Peat (facies 3)	-0.02	-1.276	0.8	1	0.90 (n=4, σ=0.12)
Lower Alluvium (facies 2)	-0.82	-1.42	0.6		In RSK-BH1 only
Pleistocene gravels (facies 1)	1.18	-5.32	3.2	4.1	3.78 (n=6, σ=0.35)

3.2.3 The surface of the gravels (facies 1) also represents the topography of the site from the beginning of the Mesolithic period (or the 'Early Holocene surface' dating from approximately 10,000 cal BP), a topography that would have influenced the depositional processes of the succeeding environments (and facies). The development of the Holocene floodplain is likely to have been influenced by the gravel topography inherited from the Pleistocene epoch. During the Late Pleistocene the present floodplain gravels would have been formed by the comparatively high-energy precursor to the modern River Roding; deposition in this environment would have resulted in the formation of a broad gravel 'braid-plan' comprising multiple unstable river channels separated by gravel bars and small islands. This surface would have dictated the course of later channels, with gravel high points forming areas of dry land within the wetlands, and lower lying areas forming the main threads of later channels. The modelled elevation of the Early Holocene surface is shown in Fig 5.

3.2.4 The composite transects (Fig 3 and Fig 4) and modelled Early Holocene surface (Fig 5) provide a starting point from which to understand the evolution of the site throughout the Holocene, and also highlights the major geomorphological features which influence the archaeological and palaeoenvironmental potentials of the site, discussed below.

3.3 Initial results of the geoarchaeological investigation

3.3.1 The upper surface of the Pleistocene gravels (facies 1) generally slopes downwards towards the south west, from a maximum elevation of +1.18m OD in the north east of the site (RSK-BH6) down to -1.46m OD (MOLA-BH2) and -1.42m OD (RSK-BH1) in the west and south west of the site, respectively. In addition to this general trend, the surface of the gravels show some significant undulations with a marked ridge of higher gravels evident in the north, extending beyond the site towards the north east, and a lower area, possibly indicating the course of a former channel, running across the centre of the site on a broad north east to south west alignment. A further area of slightly higher area is indicated in the south east of the site around the location of RSK-BH3, where the surface of the gravel reaches +0.52m OD.

3.3.2 The Pleistocene gravels (facies 1), which are likely to be contiguous with the mapped outcrop of the Taplow Gravel beyond the edges of the present Roding floodplain, would have formed on a high-energy river braidplain during the Pleistocene. The lower area across the centre of the site might have formed as an avulsion channel during periods of high-energy flow, with the areas of higher gravel possibly representing the remnants of gravel bars or islands between channels.

3.3.3 Across the entirety of the site, the Pleistocene gravels (facies 1) were overlain by a variable sequence of fine-grained mineral alluvium and peats (facies 2 to 4), ranging between -1.42m and +4.08m OD in elevation. The total thickness of these Holocene sediments ranges in thickness from a minimum of 0.4m (MOLA-BH5) close to the area of high gravels in the north of the site and where there has been significant modern truncation, to a maximum of 3.8m (MOLA-BH4) in the east of the site, within the deeper channel area.

3.3.4 The story of the sedimentation of the Thames and its lower tributaries from the beginning of the Holocene (roughly equivalent to the early Mesolithic) is closely connected to that of relative sea level rise (RSL). During the cold glacial stages of the Pleistocene sea level was as much as 120m lower than it is today. Thus at the Pleistocene/Holocene interface (equivalent with the early Mesolithic) sea level was still very low, estimated by Devoy (1982) to have been c. –30m OD, but rising. Sea level rise appears to have been rapid until about 6,000 cal BP, when sea level attained its present level. However, SE England has been sinking as a result of isostatic rebound (the earth's crust compensating for the imbalance caused by the weight of ice over northern Britain in the last cold stage) where, in relative terms, the level of the sea has continued to rise with respect to that of the land.

3.3.5 A general model for the landscape evolution for the Lower Thames floodplain area, which is likely to be broadly applicable to the floodplain of the Roding, has recently been proposed by Bates and Whittaker (2004) and furthered by Stafford et al (2012). The model suggests that where the topography of the gravel lay below –6m OD it was a wetland area at least by the late Mesolithic; by the early Neolithic land around –2m OD was inundated; and by the late Neolithic to early Bronze Age surfaces below 0m OD were inundated (Stafford et al 2012). Such wetland expansion caused higher land areas (gravel highs) to become islands within the floodplain, as the surrounding lower-lying land turned to marsh and mudflats. These islands may have become targeted for exploitation and are often associated with evidence for prehistoric activity.

3.3.6 Facies 2, the lower alluvium, was encountered only in RSK-BH1 in the south west of

the site where it consists of fine-grained (i.e. silt/clay) mineral alluvium, with lenses of peat. The lower alluvium in RSK-BH1 overlies the Pleistocene gravels (facies 1) and is overlain by peat (facies 3).

3.3.7 A layer of silty humified wood peat (facies 3), formed in a wooded wetland environment was encountered in three locations (MOLA-BH1, MOLA-BH4 and RSK-BH1). This peat layer occurs at a relatively consistent elevation between approximately -1m and -0.2m OD. Given the general model for sedimentation described above (Stafford et al 2012), these levels are likely to have become inundated between the early Neolithic and early Bronze Age and therefore this peat is likely to have formed during this time.

3.3.8 To the north of the site, at the Barking Tesco site, a Middle and Late Bronze Age brushwood trackway and wooden platforms were discovered associated with a similar peat horizon within the Roding floodplain (Meddens 1996). And a number of other later prehistoric timber structures are known from peat deposits in similar stratigraphic positions more widely in the east London area (Carew et al 2009; Wessex Archaeology 2000).

3.3.9 The peat horizon encountered in RSK-BH3 at between +1.02 and +2.02m OD probably represents separate, later period of peat formation than seen in the other boreholes given the differences in their altitude. Given that the peat in RSK-BH3 formed over the area of a gravel high, this may represent localised colonisation of the surface of the marsh, most likely during the historic period whilst the upper alluvium (facies 4) was accreting across the site.

3.3.10 With the resumption of sea level rise in the later Bronze Age, the area of the site would have changed from freshwater fenland to a salt marsh dominated by alluvial muds dating from the late Bronze Age\early Iron Age onwards. Initially the upper alluvium (facies 4) would be deposited accretionally during seasonal flood events. Eventually the whole of the gravel (Early Holocene) surface would have been blanketed in brackish muds sealing in any archaeological features or finds within the gravels. The upper level clays themselves however, are generally poor in terms of archaeological survival and if anything is to be found the artefacts would probably relate to activities associated with larger waterways such as jetties, boats and fish traps.

3.3.11 Finally, the thickness of made ground (facies 5) across the site varies between 2.5 and 5.5m, and is likely to have truncated the underlying alluvial deposits across the site to some degree. Truncation of the Holocene alluvial sequence was found to be especially heavy at locations both in the north (MOLA-BH5) and south (RSK-BH2), where thickness of made ground reached 3.6 and 5.5m, respectively, and only 0.4-0.5m of Holocene alluvial sediments remained.

4 Archaeological potential

4.1 Original research questions

4.1.1 This section examines the extent to which the original research questions have been answered by the geoarchaeological window sampling and deposit model.

- *What are the levels of the natural deposits and how do these compare to adjacent sites?*

The top of the upper alluvial deposits were encountered at depths of between 2.5m and 5.5m bgl – at elevations of between +4.08m OD and -0.49m OD. The top of the Pleistocene gravels was encountered at elevations of between +1.18 and -1.46m OD. Similar levels for these deposits were found in BGS boreholes in the vicinity of the site.

- *Is there any evidence of surviving prehistoric or later soils formed within the top of the Thames floodplain alluvial deposits?*

No evidence for prehistoric or later soils formed within the alluvial deposits was found, although at least two peat layers, one probably Neolithic in date, and the other likely to be historic in date, were found at the site.

- *Is there any Holocene peat or alluvial deposits surviving in the cores?*

Holocene alluvial deposits were encountered in boreholes across the whole of the site. Peat was encountered in four boreholes at the site, probably representing two separate episodes of peat formation. The earlier peat layer appeared to form in the deeper channel areas of the site, in between the areas of high gravel, whilst a later (and higher) peat layer was found overlying an area of higher gravel in the east of the site.

- *What are the latest deposits identified?*

The made ground deposits are the latest deposits at the site, and were probably deposited during the post-medieval to modern periods.

4.2 Overall potential

4.2.1 The geoarchaeological window sampling and deposit modelling exercise has produced a deposit model that can be used to more accurately predict where archaeological remains might be found across the site and where palaeoenvironmental deposits with potential for the reconstruction of the past landscape and human activity are likely to exist.

4.2.2 The surface of Pleistocene gravel deposits across the site represents the surface topography of the early Mesolithic period.

4.2.3 Overlying the gravels, significant sequences of alluvium and peat were recorded. Models for the Holocene alluviation of the lower Thames floodplain (and its associated tributaries) would indicate that the lower areas of the site in the south west and across the centre of the site would have become inundated during the Neolithic to Bronze Age periods, with the higher areas of gravel in the north and east of the site remaining dry until later – perhaps into the Iron Age or even the historic period.

4.2.4 The site therefore has potential for palaeoenvironmental evidence, probably from the Neolithic to Bronze Ages. Through the analysis of pollen, diatoms, ostracods

and other proxy environmental indicators, the alluvium and the organic sediments sampled have potential to reveal changes in the riverine environment and vegetation (and therefore environmental conditions) through time as well as provide radiocarbon dates for the stratigraphic column as a whole.

4.2.5 From the early historic period, the increasing wetness of the site would have continued to preclude any permanent settlement, with the area being predominantly a salt marsh and tidal creek, and only accessible seasonally for pastoral activities such as grazing livestock throughout the historic period. Indeed, the highest potential for artefacts would lie within the upper alluvial layers which seem to have been largely truncated. Certainly no artefactual material was encountered within the boreholes to date other than modern material within the made ground.

5 Recommendations

5.1 Deposits of archaeological and palaeoenvironmental interest

5.1.1 It is the floodplain deposits that lie between the top of the Pleistocene gravels and the base of the made ground that have the highest levels of archaeological and palaeoenvironmental potential. The surface of the deposits of interest varies across the site, but appears to lie between c. 2.5-4m below modern ground level and extend to a depth of approximately 4-6.5m.

5.1.2 The peat deposits, which were encountered in the south and east of the site at approximately 5m below modern ground level (at c. 0 to -1m OD), are of particular palaeoenvironmental interest.

5.2 Recommendations

5.2.1 In order to further assess the palaeoenvironmental potential of the site and to provide environmental data to complement any further limited assessment on the recovered cores.

5.2.2 The decision if any off site analysis work is required rests with the Local Authority.

6 Acknowledgements

6.1.1 The author would like to thank PJ Drilling Ltd and 1st Line Defence Ltd for their assistance on site.

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8 OASIS archaeological report form

8.1 OASIS ID: molas1-308882

Project details	
Project name	Fresh Wharf Estate, Stage 1 Geoarchaeological Evaluation
Short description of the project	Geoarchaeological evaluation of Fresh Wharf Estate, Barking. Included drilling of five boreholes across the site and the development of a geoarchaeological deposit model for the site.
Project dates	Start: 29-01-2018 End: 31-01-2018
Previous/future work	No / Yes
Any associated project reference codes	FWE18 - Sitecode
Type of project	Field evaluation
Current Land use	Industry and Commerce 1 - Industrial
Monument type	NONE None
Significant Finds	PEAT Uncertain
Methods & techniques	"Augering"
Development type	Housing estate
Prompt	Planning condition
Position in the planning process	After full determination (eg. As a condition)
Project location	
Country	England
Site location	GREATER LONDON BARKING AND DAGENHAM BARKING Fresh Wharf Eastate
Postcode	IG11 7BW
Study area	4.4 Hectares
Site coordinates	TQ 43908 83561 51.532088550031 0.074982041664 51 31 55 N 000 04 29 E Point
Project creators	
Name of Organisation	MOLA
Project brief originator	MOLA
Project design originator	MOLA
Project director/manager	Harry Clarke
Project supervisor	Phil Stastney
Project archives	

Physical Archive Exists?	No
Digital Archive recipient	LAARC
Digital Contents	"Environmental","Stratigraphic"
Digital Media available	"GIS","Spreadsheets"
Paper Archive Exists?	No

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	FRESH WHARF ESTATE FRESH WHARF ROAD BARKING, London Borough of Barking and Dagenham, Geoarchaeological Evaluation
Author(s)/Editor(s)	Stastney, P
Date	2018
Issuer or publisher	MOLA
Place of issue or publication	London
Description	Report in PDF format.

Entered by	Phil Stastney (pstastney@mola.org.uk)
Entered on	9 February 2018

Fig 1 Site location

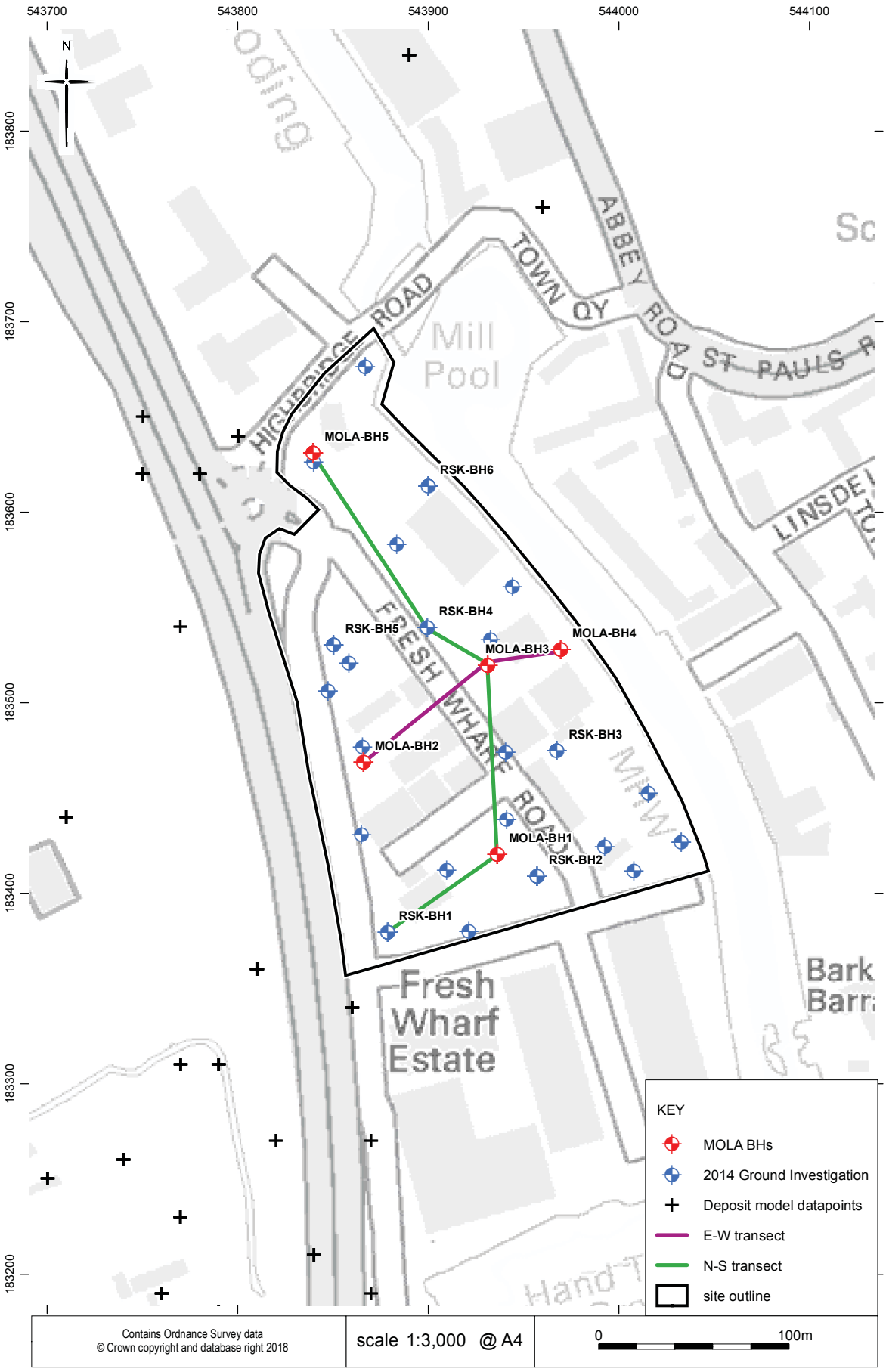

Fig 2 Location of boreholes and lithological transects

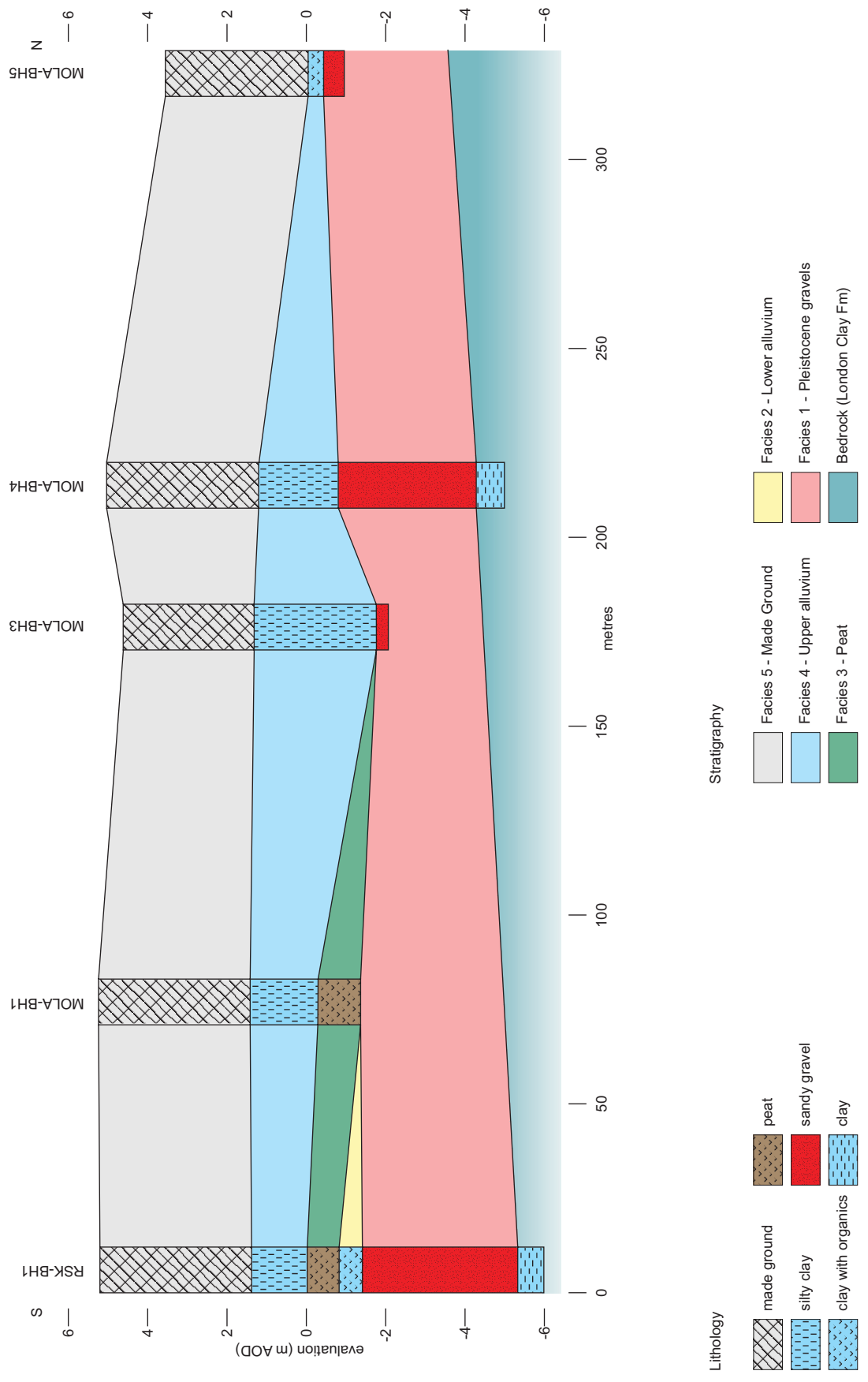

Fig 3 South to North borehole transect

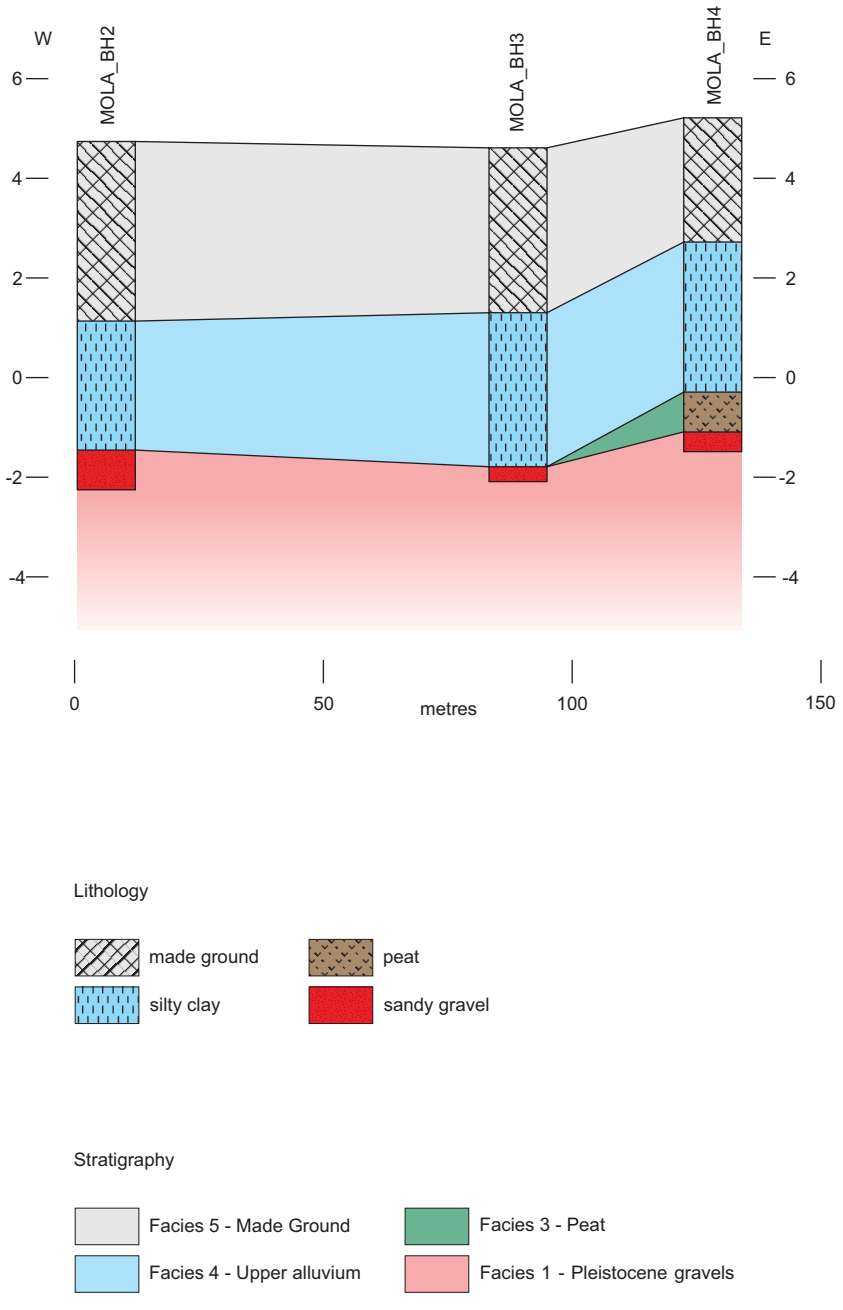

Fig 4 West to East borehole transect

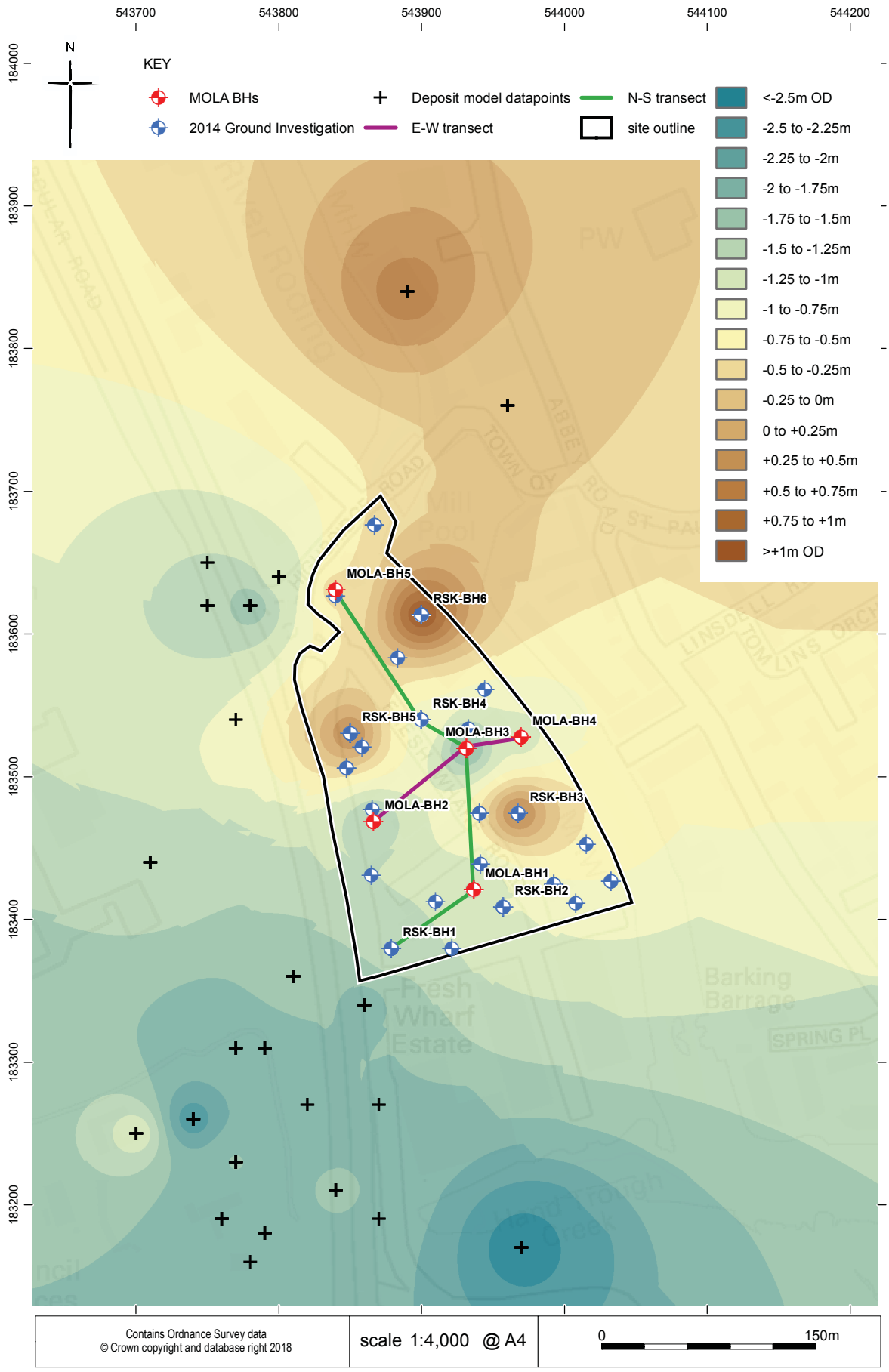

Fig 5 Modelled elevation of the Early Holocene surface