VALENCE HOUSE
Becontree Ave
London RM8

London Borough of Barking and Dagenham

Geoarchaeological evaluation report

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MOLA

REGISTERED ORGANISATION CIfA

Museum of London Archaeology
Mortimer Wheeler House
46 Eagle Wharf Road, London N1 7ED
tel 020 7410 2200 | fax 020 410 2201
https://www.mola.org.uk
general enquiries: enquiries@mola.org.uk

Valence House
Becontree Avenue
Dagenham
RM8 3HT

London Borough of Barking and Dagenham

Geoarchaeological evaluation report

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Project Manager Marit Leenstra
Author Graham Spurr

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Mortimer Wheeler House, 46 Eagle Wharf Road, London N1 7EDtel 0207 410 2200
Unit 2, Chineham Point, Crockford Lane, Basingstoke, Hampshire, RG24 8NA, Tel: 01256 587320
email business@mola.org.uk

Summary

This report presents the results of a geoarchaeological evaluation carried out by Museum of London Archaeology (MOLA) at the site of Valence House, Becontree Ave, Dagenham RM8 3HT (NGR 548132,186537). The report has been commissioned from MOLA by Lisa Rigg of the London Borough of Barking and Dagenham (LBBD) Heritage Service on behalf of the Borough of Barking and Dagenham.

The site comprises the L-shaped lake-moat which lies in the north-west corner of Valence Park on the boundary of the Valence House museum and archive site. The site lies within the Becontree Estate and was used until recently as an angling lake.

The onsite works comprised two east/west transects across the lake-moat (consisting of 5 boreholes each with test pits at either ends) as well as a 10m trench across the former course of the northern section of moat. This report evaluates the archaeological and palaeoenvironmental potential of the site and makes recommendations for further work.

The borehole exercise indicated the lake area lacks any substantial silt deposits which suggests the mid-20th Century dredging has removed all historical silts from the base of the lake. All that remains are odourous black silts which post-date the dredging event and therefore have little to no archaeological potential, even though they do contain environmental (macrofossil) remains such as seeds and leaves. The profile of the gravels at the base of the lake, however, indicate that the original moat may lay toward the western margin of the lake, where the profile is deepest.

In contrast, the trench excavation was more productive in terms of finds and the recovery of historic silts. The finds, which range from pottery sherds to milk bottles, tend to substantiate the 1920's date for the backfilling of the moat. Similar to the lake, benthic black silts were found at the base of the moat, which appeared to be overlain by blue-grey silts when seen in the trench section. These sediments, importantly here sealed by the 1920 backfill deposits, were rich not only in plant remains but also insect remains – all of which give these silts greater environmental significance (for reconstructing the environment of the past), albeit that of the late 19th / early 20th Century. The overlying blue-grey silts in the trench, originally thought to be possibly in situ historic silts, are more likely to be unoxidised backfill deposits following closer examination. Interestingly, the profile of the moat substantiates the U-shaped profile seen in photographs taken near to the trench location when the moat was partially drained in the mid-1960s.

The geoarchaeological evaluation has demonstrated that archaeological significance of the lake-moat is low overall and any future landscape improvement works to the moat itself would only require minimal archaeological monitoring. However, groundworks in other areas of this historic site might have significant archaeological impact.
Further work could take the form of a 'community dig' across the moat in an area to the west of Trench 1. A larger, stepped trench is advised to allow for safe access and closer archaeological recording and sampling of in situ moat sections at depth. It is envisaged this exercise would be of local interest and provide educational tools for long-term community and educational purposes, which may also include the identification of finds as well as macrofossils, representative of a snapshot in time in the history of Valence House.

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1.1 Site background

1.1.1 This evaluation report summarises the archaeological potential of sediments sampled during a geoarchaeological evaluation undertaken by Museum of London Archaeology (MOLA) at the site of Valence House, Becontree Ave, Dagenham RM8 3HT.

1.1.2 The site comprises the L-shaped lake-moat which lies in the north-west corner of Valence Park on the boundary of the Valence House museum and archive site (NGR 548132,186537, Fig 1).The site lies within the Becontree Estate and was used until recently as an angling lake.

1.1.3 The geoarchaeological evaluation consisted of two borehole transects (or cross-sections) taken across the larger eastern section of the historic moat belonging to Valence House and a trench excavation through the deposits adjacent to the terminus of the northern section of the moat (Fig 2).

1.1.4 A Written Scheme of Investigation (WSI; MOLA 2020) was prepared for the site. These documents should be referred to for information on the natural geology, archaeology, historical and planning background of the site.

1.2 Planning and legislative framework

1.2.1 The Planning and legislative background to the site has been adequately summarised in the WSI (MOLA 2020).

1.2.2 The current proposals have not yet gone to planning and the main aim of the proposed geoarchaeological works is to inform the landscape improvement project for the lake-moat area. At this stage, liaison with GLAAS advisor and Historic England Science advisor about the proposals is most appropriate.

1.3 Origin and scope of the report

1.3.1 The report has been commissioned from MOLA by Lisa Rigg of the London Borough of Barking and Dagenham (LBBD) Heritage Service on behalf of the Borough of Barking and Dagenham.

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

1.3.3 All research is undertaken within the priorities established in the Museum of London's (2002) A Research Framework for London Archaeology.

1.3.4 The onsite works comprised 2 east/west transects across the lake (consisting of 5 boreholes each with test pits at either ends if possible) as well as a 10m trench across the former course of the northern arm of the moat. This report evaluates the archaeological and environmental potential of the sediments sampled and provides deposit modelling of the lake-moat area.

1.4 Aims and objectives

1.4.1 The area of the lake-moat is currently closed to the public and the aim is to improve the setting and condition of the lake-moat. The plans are currently still in development and not yet submitted for planning, however the aim is to make the improvements in three stages, the second of which (Stage 2) is of greatest

geoarchaeological relevance.

1.4.2 Stage 2: Medium-term proposals being proposed by AGA Group Enviro-Fix Ltd include: constructing a new vertical timber revetment or natural coir rolls for the banks of lake-moat; and making good the reclaimed ground surface. This scheme may include dredging the lake and using the resulting lake silt to backfill and make good the strip of reclaimed land between the new revetment and the old revetment and bank, or soil dug from another part of the site.

1.4.3 As set out in the WSI (MOLA, 2020), this investigation has been designed to record sediments of geoarchaeological interest associated with the moat currently and in the past, in order to determine their extent, depth, nature and significance.

1.4.4 The following objectives and research questions have been identified for this evaluation:

- Create a transect of the wet moat and infilled moat and define its character.
- Do historic silts still exist in the moat and at what level are they found? How thick is the silt deposit?
- What is the extent of modern truncation such as the known 1960s dredging event?
- To what extent do the historic silts have potential for archaeological material?
- Has the moat been re-cut? To what extent can we identify construction method for the moat and phases of construction of the moat?
- What would be the impact of dredging based on the findings of the geoarchaeological evaluation and what are recommendations to limit the impacts on historic silts or other (geo)archaeological assets?
- Is there any palaeoenvironmental work that could be done with the samples from the retained cores?
- Is there potential for dating deposits?
- Is there evidence that the moat was once used as a fish pond?
- Is there potential for further archaeological work during any dredging operations?
- Is there evidence of an entrance way to the north alongside the current library building?

2 Geoarchaeological background

2.1.1 A detailed description of the archaeology and history of the site has been prepared by Dr. Nick Holder from Archaeohistory in July 2020 although a summary of the salient points regarding the lake-moat are as follows.

2.1.2 Historic maps (1771 estate plan of the manor, the 1840s tithe assessment map, the 1890s Ordnance Survey map and the 1946 Ordnance Survey map) indicate the shape of the moat remained remarkably constant from its first illustration in 1771 until the 1920s. One bank of the southern arm of the moat was slightly regularised in the late 19th century.

2.1.3 Major change came in the 1920s when the southern and western arms of the moat, and the western end of the northern arm, were backfilled. The historic moat was thus transformed into an L-shaped lake. The junction of the two surviving arms of the lake-moat was slightly altered in the 1950s when two artificial wildlife islands were added to the north-east corner (compare the 1946 and 1961 Ordnance Survey maps).

2.1.4 Archaeological evidence from trial trenches and pits in 2007 show that some historic moat fills survive in the base of the backfilled western arm of the moat (MoLAS 2007, 10). In 2009 the archaeologists monitored the construction works on the visitor centre and recorded some edges of the original moat to the south of the house, and the early 20th-century gravel backfill material within the moat. The southern arm of the moat appeared to have been scoured before backfilling with gravel in the 1920s, presumably to create solid ground conditions for the construction works in the new municipal depot: no historic fills were observed in this section of the moat. The original width of the southern arm of the moat was 14.2m (measured north-south across the moat), slightly wider than the c.12m illustrated on the 1918 Ordnance Survey map (MoLAS 2010, 7).

2.1.5 Further information on the historic moat was revealed by the 2007 geotechnical works (Alan Baxter Associates 2007). Like the archaeological works, this concentrated on the southern part of the Valence House site. One borehole (BH1), apparently situated near the deepest part of the backfilled western moat, showed that the base of the moat lay 2.9m below modern ground level at that point. It became apparent the historic moat was clearly dug deep enough through the Ilford Silt geological brickearth layer to reach the underlying Hackney Gravels geological layer.

2.1.6 The modern groundwater level was recorded at a depth of about 4.5m below ground level. It is likely, therefore, that the original moat diggers dug the moat in a concave U profile so that the base of the moat reached the historic ground water level in the Hackney Gravels. The localised perforation of the Ilford Silt brickearth by the moat may have allowed the groundwater to rise up a little from the exposed Hackney Gravels at the base of the moat and partly fill the moat with water. Rainwater runoff would then perhaps further fill the historic moat with water.

2.1.7 Analysis of the hydrology of the site, prior to the reinstatement of the southern moat stretch in 2009, suggested that the main lake-moat was largely self-sufficient in its water supply, filling naturally with rainwater. The report also noted the lack of any obvious modern or historic pond lining material (Entec 2007, 11–13).

2.1.8 Photographs from 1965 show that the moat was partially drained with a mechanical pump and dredged using a mechanical excavator on the shore fitted with a cable bucket. The northern arm of the partially drained moat has a shallow ‘U’ profile.

3 The geoarchaeological evaluation

3.1 Introduction

3.1.1 The geoarchaeological evaluation, carried out in accordance with the WSI (MOLA 2020), consisted of two borehole transects (along with testpits) taken across the larger, eastern arm of lake-moat, and a trench excavation through the deposits adjacent to the terminus of the northern arm of the lake (Fig 2).

3.1.2 In general, the primary objective of the evaluation was to confirm the extent, nature and significance of any surviving moat deposits, including any indications of the moat profile (MOLA 2020).

3.2 Methodology

On site (boreholes and testpits)

3.2.1 A team from Geotechnical Engineering drilled the 2no east/west transects consisting of 5no boreholes each through the sediments at the base of the lake with a Dando rig fitted with a windowless core sampler secured on a pontoon, under the supervision of a MOLA Geoarchaeologist. At either end of each transect, a hand dug testpit was undertaken.

3.2.2 The boreholes were drilled through the base of the lake and sediments recovered in 1m long plastic tubes. The boreholes ceased at the underlying surface of the Pleistocene sand and gravel deposits in accordance with the WSI (MOLA 2020).The deposits were preliminarily logged before being labelled and sealed and transported back to the MOLA geoarchaeological laboratory. At the test pit locations, the sediments were logged and samples for any off-site analysis were taken, if deemed appropriate.

On site (Trench excavation)

3.2.3 A 10m x 2m archaeological trench excavation ('Trench1') was undertaken using a small 3 tonne machine with blunt edged ditching bucket under the supervision of a MOLA Geoarchaeologist.

3.2.4 The excavation entailed an initial excavation to approximately 1m depth which allowed an in trench geoarchaeological recording of the deposits, followed by a further, narrower (0.5m wide) sondage to depth, watched from a safe distance adjacent to the trench.

3.2.5 Where suitable material for offsite palaeoenvironmental analysis was revealed (i.e. alluvial / moat deposits), grab samples were taken from the trench.

3.2.6 Following the geoarchaeological investigation, the locations and heights (x, y and z data) of the boreholes, testpit and trench were recorded by MOLA surveyors.

Off site

3.2.7 Following the fieldwork, the data recorded from site was entered into a digital (RockWorks 17) database.

3.2.8 For comparison between the transects and trench excavation, based on the lithological descriptions, the logged deposits were grouped into facies (or deposits of similar depositional environments). This information was then able to be displayed as cross-sections and a trench section (Fig 3, Fig 4 and Fig 6).

3.3 Results of geoarchaeological evaluation

The boreholes and test pits

3.3.1 The 10 boreholes and 4 test pits were undertaken at the locations marked in Fig 2.

3.3.2 The initial transect, the east/west (southerly) transect, began with test pit 1 (TP1) at the eastern end which was followed by boreholes V1 to V5 across the lake, terminating with TP2 in the west (Fig 3).

3.3.3 The second transect, the east/west (northerly) transect, began TP3 at the western end which was followed by boreholes V6 to V10 across the lake, terminating with TP4 in the east (Fig 3).

3.3.4 For the borehole sedimentary logs and interpretations, see Appendix 1.

Trench 1

3.3.5 The trench excavation was undertaken at the location marked on Fig 2.

3.3.6 For the trench sedimentary log and interpretation, see Appendix 2.

3.4 Environmental assessment of selected subsamples

John Whittaker (Natural History Museum)

Introduction

3.4.1 Three samples of lake silts were submitted from Valence House, Dagenham, one from BH_V3 taken from the lake-moat and two from Trench 1 (contexts [6] and [7]) which was excavated across where the moat used to run (to the northwest of the lake; Fig 2).

3.4.2 The purpose of this assessment was to provide an environmental description of the deposits with a particular emphasis on comparing BH_V3 from the lake with [7] and possibly [6] from the trench.

Materials and methods

3.4.3 The samples were placed in ceramic bowls and first dried in an oven. They were then soaked in hot water with a little sodium carbonate added to remove the clay fraction. Washing was through a 75micron sieve with hand-hot water, the samples being decanted back into their bowl for final drying. Examination was under a binocular microscope; the contained material being noted for discussion (below).

Results

3.4.4 The residue of silt from the bottom of the lake in BH_V3 was black, organic and “gritty”. It was full of plant debris, with seeds, nuts and decayed leaves (Table 1). The lake must have been a rather inhospitable environment, the only signs of life being cladoceran ephippia (egg-cases of water-fleas, like Daphnia, which are usually produced when times are hard to await a better environment to hatch out). There were also a few Cypria ophtalmica, the so-called “slum” ostracod, which can live even in the most polluted of waterbodies. Here, their shells were partly decalcified which may account for the almost total lack of anything calcareous in the sediment.

3.4.5 The Trench 1 samples from contexts [6] and [7] also contained much plant debris including leaves and twigs and a great many seeds (Table 1). They both also contain remains of insects, especially beetles. However, in sample [6] – the

upper, blue-grey silt – there is much slag, coal, charcoal, brick and cement/concrete fragments– industrial/human waste which must indicate that this layer is backfill, or has been influenced by the material overlying it. In context [7] – the lower, black silt – there is next-to-nothing of any of this "industrial" waste, which seems to suggest that [7] is the original sediment from the moat prior to backfilling.

Provenance	***lake***	***moat/backfill***	
Sample	**V3**	**Tr 1 [6]**	**Tr1 [7]**
plant debris + seeds/nuts, leaves	**x**	**x**	**x**
cladoceran ephippia	**x**		
freshwater ostracods	**x**		
insect remains		**x**	**x**
slag/coal/charcoal/brick/cement		**x**	
sediment	***fine organic silt***	***coarse organic silt (pebbly)***	

Table 1: Environmental description of selected lake silt sediments (Valence House)

3.5 The finds

Nigel Jeffries; MOLA

3.5.1 Finds were retrieved from the upper fills of the trench (contexts [1] to [5]; Facies 3; Fig 6).

3.5.2 In general, they date to the turn of the twentieth century which is compatible with the 1920's infilling of the moat.

Photo 1: Finds from Trench 1

3.5.3 On the left-hand side is a fragment of a stoneware jar and would have been used for preserves and pickling. It is British made, possibly from one of the London pothouses.

3.5.4 The sherds in the middle are Yellow Ware, with slip banded and mocha decoration. These were made in pothouses in Leicestershire, Derbyshire and Nottinghamshire, from about the 1820s and continued into the 20th Century.

3.5.5 The ‘pop top’ bottle has ‘Mendips Dairy Co’ embossed on it and has a distinctive seam or mould line that runs all the way up either bottle side and onto the rim which is indicative of being machine made, and dates after 1905 when this technology was introduced.

3.6 Discussion of the geoarchaeological evaluation

3.6.1 This section discusses the deposits logged during the borehole and trench investigation in terms of the types of deposit, the environment of deposition and the finds associated with them. The deposits have been grouped into three facies, or deposits of similar characteristics to aid interpretation. The facies and lithology recorded are illustrated in the transects and in the trench section (Fig 3 to Fig 6).

Facies 1: Geological deposits

3.6.2 The geological deposits across the site (facies 1) consist of London Clay Formation bedrock, made up of stiff clay and silts dating to the Eocene, capped with Superficial deposits largely of the Hackney Gravel member (sand and gravel) river terrace, which dates from the mid to late Pleistocene (Photo 2).

Photo 2: (L-R) Typical sequence of Hackney Gravels over London Clay deposits (BH_V2; Valence House)

3.6.3 The London Clay, where encountered, lies at approximately 10.50m/11m above Ordnance Datum (AOD), some 3m/3.5m below ground level (bgl) and underlies the entire site (Fig 3 and Fig 4). As this geological stratum formed prior to hominin evolution it is considered to be of little geoarchaeological interest although London Clay presumably provides the impermeable layer that supports the local aquifer within the overlying Superficial deposits.

3.6.4 Overlying the London Clay, up to 3m of Pleistocene Superficial deposits were encountered across the site at varying thicknesses (Fig 3 and Fig 4). These predominantly consisted of Hackney Gravels and overlying Head or Ilford Silts (seen in TP 3 & 4 and TP1, respectively) as mapped by the British Geological Survey (bgs.ac.uk).

3.6.5 As a consequence of being largely disturbed or truncated within the lake-moat areas, the surviving Superficial deposits are of little archaeological potential other than to outline the profile of the lake-moat.

3.6.6 The borehole transects indicate the lake takes a ‘tick’ shape profile sloping gently from the eastern side toward the deepest point which seems to lie closer to the west of the lake (around the BH_V7 and BH_V4 positions) where it reaches some 2m depth (max) before rising more steeply upward to the western margin of the lake over a distance of 35m (Figs 3 and 4).

3.6.7 In contrast, the trench revealed the original moat was narrower at approximately 6m wide but excavated to a similar depth (at approximately 1.80m) and excavated in a U shape (Figs 5 and 6), similar to the profile seen in the 1965 photographs from this area of the site (MOLA 2020).

3.6.8 Both trench and borehole profiles bottomed between 11m and 12m AOD.

Facies 2: Lake silts

3.6.9 The black, benthic silts seen in both the transects and the trench (predominantly context [7] and the black sands of [9]) coupled with the overlying blue grey silts observed only in the trench (context [6]), have been grouped as facies 2, the Lake Silts (Figs 3 to Fig 6; Photos 3 & 4).

3.6.10 The facies 2 deposits, which were found to directly overly Pleistocene deposits (mainly the Hackney Gravels) in both the borehole transects and the trench, are considered to represent the basal deposits of the lake-moat and possibly represent the deposits of greatest archaeological potential. The black silts averaged approximately 0.50m in thickness across the site, reaching a maximum of 0.80m in BH_V5.

3.6.11 Overall, the black silts in the lake were very soft, unctuous and odorous, with occasional feathers, leaves and other detritus visible (Photo 3). The silts were often mixed with or filtered into the gravels, staining them black in turn, where fragments of (19th/20th Century) brick were also occasionally encountered (BH_V1 and V2). In the trench, the same deposit, context [7], was more consolidated but similar in colour and also contained (rare) fragments of Yellow Stock brick and red brick. The black silts of [7] were found to have stained the essentially Pleistocene sands of [9] in the trench much like the silts in the lake stained the underlying gravels in places.

3.6.12 Initial environmental examination of the black silt deposits found them to be full of macrofossil remains such as plant debris (with seeds and nuts) and decayed leaves. The only signs of life within the lake were cladoceran ephippia (egg-cases of water fleas) and a few Cypria ophthalmica (the so-called "slum" ostracod) which live in polluted waterbodies. The samples taken from the trench (context [7]) however, suggest the conditions here may have been slightly more salubrious as many insect remains were also encountered, especially those of beetles. In short, the black silts at the base of the lake and trench represent an anoxic environment, rather inhospitable to life, but with much environmental potential because of macrofossil survival.

Photo 2: Black benthic silts from the base of the lake (BH_V8 Valence House)

3.6.13 Similar macrofossil remains were revealed in the examination of context [6], the upper blue-grey silt overlying [7], which, when excavated, was found to contain some fragments of pottery (the stoneware and Yellow Ware, see Photo 1,Section 3.5) and brick but also, under microscopic examination, contained much slag, coal, charcoal, brick and cement. This tends to indicate that this layer is backfill or at least alluvial deposits contaminated from the overlying (dumped/ made ground) deposits. In contrast, context [7], the black lower silt, contained no "industrial" waste, which might suggest that sample [7] is the original sediment from the moat.

3.6.14 Of some note was the wood that was noted to lie seemingly along the northern edge of the moat within the trench profile (Figs 5 & 6 and to the left of the base of levelling staff in Photo 4). It was unclear whether this was a log or similar, purposely placed to edge the moat, or whether this was a root or just a fallen tree within the muds. It was substantial however, being some 50cm in diameter. The log was left in situ.

Photo 3: Black benthic silts [7] overlain with upper grey silts [6]; Trench 1 Valence House

Facies 3 Made ground

3.6.15 The made ground deposits logged across the site (facies 3; Fig 3 to Fig 6) consisted essentially of the backfill of the moat encountered in the trench and some of the disturbed deposits seen in the test pits.

3.6.16 Within the trench, the facies 3 deposits consisted of brown becoming orange essentially loamy silty clay deposits, approximately 1m in thickness overall (contexts [1] to [5]; Fig 6; Photo 4). These deposits were heavily bioturbated for the most part (riven with roots) but contained occasional finds including brick fragments and some bottles including the ‘pop top’ milk bottle dated to post 1905 (Photo 1, Section 3.5).

3.6.17 The archaeological potential of these deposits tends to lie in the finds they contain which place a fairly robust date on their deposition (i.e. after 1905), being probably representative of the period when the modification/infilling of the moat was undertaken in the 1920s.

3.6.18 The made ground, or rather the disturbed deposits seen in the testpits along the side of the lake (e.g. TP2), could represent backfilling in these areas too but also, perhaps, simply more modern disturbance to do with the Angling Club or similar. The lack of finds here make these areas of no to little archaeological significance.

Photo 4: Approximately 1m thick brown made ground deposits over the lower blue grey clays; Trench 1 Valence House

4 Archaeological potential

4.1 Original research questions

This section examines the extent to which the original research questions posed in the WSI (MOLA 2020) have been answered by the assessment.

- *Create a transect of the wet moat and infilled moat and define its character.*

  The profile of the lake-moat slopes gently from the eastern side toward the deepest point which seems to lie closer to the west of the lake around the BH_V7 and BH_V4 positions (where it reaches some 2m depth maximum) and then rise more steeply upward to the western margin of the lake (over 35m; Figs 3 and 4). In contrast, the trench revealed the original (pre-1770 survey) moat had a narrower U-shaped profile at approximately 6m wide but similar depth (at approximately 1.80m; Figs 5 and 6).

- *Do historic silts still exist in the moat and at what level are they found? How thick is the silt deposit?*

  The silts in the lake are not considered historic given their nature and thinness (averaging approximately 0.50m). Modern brick and other rubble have also been located within the surface of the gravels at the bottom of the lake, below the silt, substantiating modern disturbance

- *What is the extent of modern truncation such as the known 1960s dredging event?*

  The 1960s dredging event appears to have removed the historic silts in their entirety from the base of the lake. It is likely an historic build-up of silts would be much thicker and more compact and perhaps blue/grey in colour.

- *To what extent do the historic silts have potential for archaeological material?*

  The silts in the lake have little to no potential for archaeological material given their modern nature whereas the silts in the trench may have more palaeoenvironmental potential (insects, seeds etc) although still these are considered relatively modern (i.e. late 19th / early 20th Century) given the finds within the overburden and others such as yellow stock brick found within them, for example. The backfill of the trench though may offer more potential for a variety of finds as discovered in the trench excavation although of a similar late 19th / early 20th Century period.

- *Has the moat been re-cut? To what extent can we identify construction method for the moat and phases of construction of the moat?*

  There was no definitive evidence of any identifying construction methods.The shape of the moat has changed and used to have a narrower U-shaped profile at approximately 6m wide but similar depth (at approximately 1.80m).

- *What would be the impact of dredging based on the findings of the geoarchaeological evaluation and what are recommendations to limit the impacts on historic silts or other (geo)archaeological assets?*

  Any further dredging is unlikely to have any impact on the archaeological resource given that the lake was dredged in the 1960s and the current silt deposits have little to no (geo)archaeological potential.

- *Is there any palaeoenvironmental work that could be done with the samples from the retained cores?*

  The silt deposits both in the cores and trench contained palaeoenvironmental (macrofossil) remains such as seeds, twigs and insects. However, as the deposits are likely to relate mainly to the early 20th Century they would be of

limited archaeological potential. Any further analysis, if undertaken, should concentrate on the lowest deposits within the trench (i.e. context [7]) as these are considered to be the most historical and undisturbed.

- *Is there potential for dating deposits?*

  Dating from the finds already indicates the deposits relate to the late 19th / early 20th Century, however, radiocarbon dating is possible from the macrofossils within [7] although, given the expected modern date and the date error range (i.e. +/- 30 years or more), this technique may not provide a useful (i.e. more specific) date for the context.
- *Is there evidence that the moat was once used as a fishpond?*

  The evaluation found no evidence that the moat was once used as a fishpond, but any evidence could have been removed by historical dredging activities.
- *Is there potential for further archaeological work during any dredging operations?*

  Given the nature of the archaeological resource seen in the boreholes within the lake there is considered little potential for further archaeological work during any dredging operations other than perhaps a watching brief to be undertaken.
- *Is there evidence of an entrance way to the north alongside the current library building?*

  There was no evidence of an entrance way to the north alongside the current library building revealed in the excavated trench location. It can not be discounted that the entrance was further to the west of the excavated location.

4.2 Overall potential

4.2.1 The geoarchaeological evaluation has achieved its main aim of recording sediments of geoarchaeological interest associated with the moat currently and in the past, in order to determine their extent, depth, nature and significance.

4.2.2 The borehole exercise indicates the lake area has little to no archaeological potential as the lack of any substantial silt deposits indicate the surviving sediments post-date the dredging events of the late 20th Century which seem to have removed all historical silts from the base of the lake. The profile of the lake indicates however that the original moat may lay toward the western margin of the lake where the profile is deepest.

4.2.3 In contrast, the trench excavation was more productive in terms of finds and the recovery of historic silts. Furthermore, the profile of the moat at this location is considered to be closer to the U-shaped profile seen in the 1965 photographs.

4.2.4 Added to this, the base of the trench revealed the same benthic black silt sediments as the lake, confirming a clear primary deposit within the moat at depth. As in the lake, these sediments [7] were found to be rich not only in plant remains but also insect remains which gives these silts higher palaeoenvironmental significance than the lake (for reconstructing the environment of the past). However, the silts are also considered to be relatively modern (i.e. early 20th Century, given the finds they include) and therefore of low to medium archaeological potential. The overlying blue-grey silts [6] seen in the trench, originally thought to be possibly historic silts, are more likely to be unoxidised backfill deposits following closer examination.

4.2.5 The finds within the made ground and silt deposits within the trench are considered to be of low to medium archaeological significance as they are largely late-19th/early 20th Century. There were no finds relating to the medieval past of the moat and/or Valence House itself.

5 Recommendations

5.1.1 Archaeological potential at Valence House lies in further trench excavations across the original line of the moat in a similar area to that of Trench 1. The lake area is considered to be of low archaeological significance given its modification and the relatively recent dredging activity.

5.1.2 A further trench across the moat will be of interest in logging the moat profile as it extends westward. Should a trench excavation take place, perhaps in the form of a 'community dig', a wider area could be allocated given the depth of the moat as seen in Trench 1. A larger, stepped trench is advised to allow for safe access and close archaeological description and sampling of sections at depth.

5.1.3 Further to the excavation, perhaps the seeds and insects of the basal silts could be used as an educational tool at the Museum, again in a community context. These could be identified by a specialist and recorded providing a database and examples for microscopic work and/or teaching practices. These macrofossil remains do after all capture a period in time (i.e. the late 19th/early 20th Century) when the plants along the lake-moat may have differed from today.

5.1.4 Potential for artefactual recovery is considered low to medium but nevertheless, as with the environmental remains, the finds are a product of a specific time in the history of Valence House and therefore should be of some local interest. Further work could be done by processing and assessing environmental deposits from the retained samples, however these results would be of local significance only and would shed some light on the past environment of the late-19th Century moat and house.

6 Bibliography

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7 Appendix 1 – geoarchaeological borehole logs

VAL20_MOLA_V1						
548140.38	186499.94	OD height of bore:	14.14			
Depth to top of unit (m bgl)	**Depth to base of unit (m bgl)**	**OD height of top of unit (m)**	**OD height at base of unit (m)**	**Thickness**	**Description**	**Interpretation**
0.00	1.40	**14.14**	**12.74**	1.4	Water	Lake-moat
1.40	1.60	**12.74**	**12.54**	0.2	Very wet dark grey/black silt with brick fragments	Detrital silt (recent)
1.60	3.00	**12.54**	**11.14**	1.4	Dense orangey brown sandy gravel	Hackney Gravel (Superficial deposit)

VAL20_MOLA_V2						
548135.09	186501.42	OD height of bore:	14.14			
Depth to top of unit (m bgl)	**Depth to base of unit (m bgl)**	**OD height of top of unit (m)**	**OD height at base of unit (m)**	**Thickness**	**Description**	**Interpretation**
0.00	2.00	**14.14**	**12.14**	2	Water	Lake-moat
2.00	2.30	**12.14**	**11.84**	0.3	Very wet dark grey/black gravelly silt with occasional red brick fragments	Detrital silt (recent)
2.30	3.25	**11.84**	**10.89**	0.95	Dense orangey brown sandy gravel	Hackney Gravel (Superficial deposit)
3.25	4.00	**10.89**	**10.14**	0.75	Stiff light brown clay	London Clay (Bedrock)

VAL20_MOLA_V3						
548128.95	186502.80	OD height of bore:	14.14			
Depth to top of unit (m bgl)	**Depth to base of unit (m bgl)**	**OD height of top of unit (m)**	**OD height at base of unit (m)**	**Thickness**	**Description**	**Interpretation**
0.00	2.00	**14.14**	**12.14**	2	Water	Lake-moat
2.00	2.20	**12.14**	**11.94**	0.2	Very wet dark grey/black gravelly	Detrital silt (recent)
2.20	2.70	**11.94**	**11.44**	0.5	Dense orangey brown sandy gravel	Hackney Gravel (Superficial deposit)

VAL20_MOLA_V4						
548122.18	186503.75	OD height of bore:	14.14			
Depth to top of unit (m bgl)	**Depth to base of unit (m bgl)**	**OD height of top of unit (m)**	**OD height at base of unit (m)**	**Thickness**	**Description**	**Interpretation**
0.00	2.50	**14.14**	**11.64**	2.5	Water	Lake-moat
2.50	2.90	**11.64**	**11.24**	0.4	Very wet dark grey/black gravelly silt	Detrital silt (recent)
2.90	3.50	**11.24**	**10.64**	0.6	Dense orangey brown sandy gravel	Hackney Gravel (Superficial deposit)

VAL20_MOLA_V5						
548116.04	186504.81	OD height of bore:	14.14			
Depth to top of unit (m bgl)	**Depth to base of unit (m bgl)**	**OD height of top of unit (m)**	**OD height at base of unit (m)**	**Thickness**	**Description**	**Interpretation**
0.00	1.50	**14.14**	**12.64**	1.5	Water	Lake-moat
1.50	2.30	**12.64**	**11.84**	0.8	Very wet dark grey/black gravelly silt with occasional ceramic and CBM fragments at base.	Detrital silt (recent)
2.30	3.50	**11.84**	**10.64**	1.2	Dense dark grey silty sandy gravel	Disturbed Hackney Gravels

VAL20_MOLA_V6						
548117.10	186537.83	OD height of bore:	14.14			
Depth to top of unit (m bgl)	**Depth to base of unit (m bgl)**	**OD height of top of unit (m)**	**OD height at base of unit (m)**	**Thickness**	**Description**	**Interpretation**
0.00	1.30	**14.14**	**12.84**	1.3	Water	Lake-moat
1.30	1.50	**12.84**	**12.64**	0.2	Very wet dark grey/black silt	Detrital silt (recent)
1.50	1.90	**12.64**	**12.24**	0.4	Moderately firm mid greyish brown gravelly sand.	Hackney Gravel (Superficial deposit)
1.90	2.50	**12.24**	**11.64**	0.6	Moderately compact white and light greyish brown gravel.	
2.50	3.00	**11.64**	**11.14**	0.5	Firm light brown gravely sand.	

VAL20_MOLA_V7						
548122.82	186537.09	OD height of bore:	14.14			
Depth to top of unit (m bgl)	**Depth to base of unit (m bgl)**	**OD height of top of unit (m)**	**OD height at base of unit (m)**	**Thickness**	**Description**	**Interpretation**
0.00	1.75	**14.14**	**12.39**	1.75	Water	Lake-moat
1.75	2.25	**12.39**	**11.89**	0.5	Very wet dark grey/black silt	Detrital silt (recent)
2.25	3.00	**11.89**	**11.14**	0.75	Moderately firm dark blackish grey gravely silt. Small sub-angular and sub-rounded stone inclusions.	Disturbed Hackney Gravels
3.00	3.60	**11.14**	**10.54**	0.6	Loose light brown and mid grey sandy gravel.	Hackney Gravel (Superficial deposit)
3.60	4.00	**10.54**	**10.14**	0.4	Stiff light brown clay	London Clay (Bedrock)

VAL20_MOLA_V8						
548130.01	186536.14	OD height of bore:	14.14			
Depth to top of unit (m bgl)	**Depth to base of unit (m bgl)**	**OD height of top of unit (m)**	**OD height at base of unit (m)**	**Thickness**	**Description**	**Interpretation**
0.00	1.30	**14.14**	**12.84**	1.3	Water	Lake-moat
1.30	1.95	**12.84**	**12.19**	0.65	Very wet dark grey/black silt	Detrital silt (recent)
1.95	3.80	**12.19**	**10.34**	1.85	Moderately loose becoming compact initially black then mid brownish grey gravel.	Hackney Gravel (Superficial deposit)
3.80	4.00	**10.34**	**10.14**	0.2	Stiff light brown clay	London Clay (Bedrock)

VAL20_MOLA_V9						
548136.47	186535.40	OD height of bore:	14.14			
Depth to top of unit (m bgl)	**Depth to base of unit (m bgl)**	**OD height of top of unit (m)**	**OD height at base of unit (m)**	**Thickness**	**Description**	**Interpretation**
0.00	1.40	**14.14**	**12.74**	1.4	Water	Lake-moat
1.40	1.80	**12.74**	**12.34**	0.4	Very wet dark grey/black silt	Detrital silt (recent)
1.80	3.70	**12.34**	**10.44**	1.9	Dense orangey brown sandy gravel	Hackney Gravel (Superficial deposit)
3.70	4.00	**10.44**	**10.14**	0.3	Stiff light brown clay	London Clay (Bedrock)

VAL20_MOLA_V10						
548142.92	186534.76	OD height of bore:	14.14			
Depth to top of unit (m bgl)	**Depth to base of unit (m bgl)**	**OD height of top of unit (m)**	**OD height at base of unit (m)**	**Thickness**	**Description**	**Interpretation**
0.00	1.00	**14.14**	**13.14**	1	Water	Lake-moat
1.00	1.20	**13.14**	**12.94**	0.2	Very wet dark grey/black silt	Detrital silt (recent)
1.20	1.50	**12.94**	**12.64**	0.3	Mix of loose mid brown and grey gravel.	Hackney Gravel (Superficial deposit)
1.50	2.00	**12.64**	**12.14**	0.5	Firm mid brown and white gravely sand.	

VAL20_MOLA_TP1						
548144.08	186499.34	OD height of bore:	14.075			
Depth to top of unit (m bgl)	**Depth to base of unit (m bgl)**	**OD height of top of unit (m)**	**OD height at base of unit (m)**	**Thickness**	**Description**	**Interpretation**
0.00	0.30	**14.08**	**13.78**	0.3	Soft mid greyish brown slightly stony clay loam	Topsoil
0.30	0.80	**13.78**	**13.28**	0.5	Soft mottled blue and brown clay	Ilford Silt Member (Superficial deposit)
0.80	1.30	**13.28**	**12.78**	0.5	Soft grey blue fine to medium sandy clay	
1.30	2.00	**12.78**	**12.08**	0.7	Wet grey blue medium sand and gravel	Hackney Gravel (Superficial deposit)

VAL20_MOLA_TP2						
548111.39	186505.18	OD height of bore:	14.19			
Depth to top of unit (m bgl)	**Depth to base of unit (m bgl)**	**OD height of top of unit (m)**	**OD height at base of unit (m)**	**Thickness**	**Description**	**Interpretation**
0.00	0.30	**14.19**	**13.89**	0.3	Soft mid greyish brown slightly stony clay loam	Topsoil
0.30	1.90	**13.89**	**12.29**	1.6	Dark grey clayey sandy gravel with some brown sandy gravel	Disturbed ground
1.90	2.50	**12.29**	**11.69**	0.6	Wet brown / orange medium sand and gravel	Hackney Gravel (Superficial deposit)

VAL20_MOLA_TP3						
548112.64	186538.08	OD height of bore:	14.196			
Depth to top of unit (m bgl)	**Depth to base of unit (m bgl)**	**OD height of top of unit (m)**	**OD height at base of unit (m)**	**Thickness**	**Description**	**Interpretation**
0.00	0.30	**14.20**	**13.90**	0.3	Soft mid greyish brown slightly stony clay loam	Topsoil
0.30	0.90	**13.90**	**13.30**	0.6	Soft light brown gravelly clay with occasional CBM	Disturbed ground
0.90	1.20	**13.30**	**13.00**	0.3	Soft grey brown silty clay	Ilford Silt Member (Superficial deposit)
1.20	1.80	**13.00**	**12.40**	0.6	Slightly stiff orangey clay occasionally sandy with occasional fine to medium gravel	Head (?) (Superficial deposit)
1.80	2.30	**12.40**	**11.90**	0.5	Soft becoming wet light brown sand	Hackney Gravel (Superficial deposit)

VAL20_MOLA_TP4						
548147.22	186534.09	OD height of bore:	14.075			
Depth to top of unit (m bgl)	**Depth to base of unit (m bgl)**	**OD height of top of unit (m)**	**OD height at base of unit (m)**	**Thickness**	**Description**	**Interpretation**
0.00	0.10	**14.08**	**13.98**	0.1	Soft mid greyish brown slightly stony clay loam	Topsoil
0.10	0.30	**13.98**	**13.78**	0.2	Soft orange gravelly sand	Disturbed ground
0.30	0.60	**13.78**	**13.48**	0.3	Soft dark grey brown stony loam with occasional CBM	
0.60	1.00	**13.48**	**13.08**	0.4	Moderately firm grey mottled brown clay becoming more blue grey and sandier with depth	Head (?) (Superficial deposit)
1.00	1.30	**13.08**	**12.78**	0.3	Moderately firm blue sandy grey clayey sand and gravel	
1.30	1.50	**12.78**	**12.58**	0.2	Soft orange clayey sand and gravel	
1.50	2.00	**12.58**	**12.08**	0.5	Soft becoming wet light brown sand	

8 Appendix 2 – Trench 1 contexts

VAL20 Trench 1		
Context	**Description**	**Interpretation**
1	Crumbly dark brown loamy silt with frequent roots	Topsoil
2	Soft dark greyish brown clay	Backfill / locally derived alluvial deposits (?)
3	Moderately firm to stiff greyish orange clay with frequent fine subangular gravel and occasional CBM and anthracite	Backfill / redeposited London Clay (?)
4	Soft grey silty clay with occasional gravel	Backfill / locally derived oxidised and unoxidised alluvial deposits (?)
5	Soft orange and grey silty clay	
6	Soft grey silty clay with occasional pottery and brick fragments	
7	Very soft black silt	Moat / lake silt
8	Yellow sand stained grey in places with occasional gravel	Superficial Pleistocene deposits
9	Yellow sand stained grey in places	
10	Yellow medium sands and gravel	

9 Figures

Fig 1 Site location

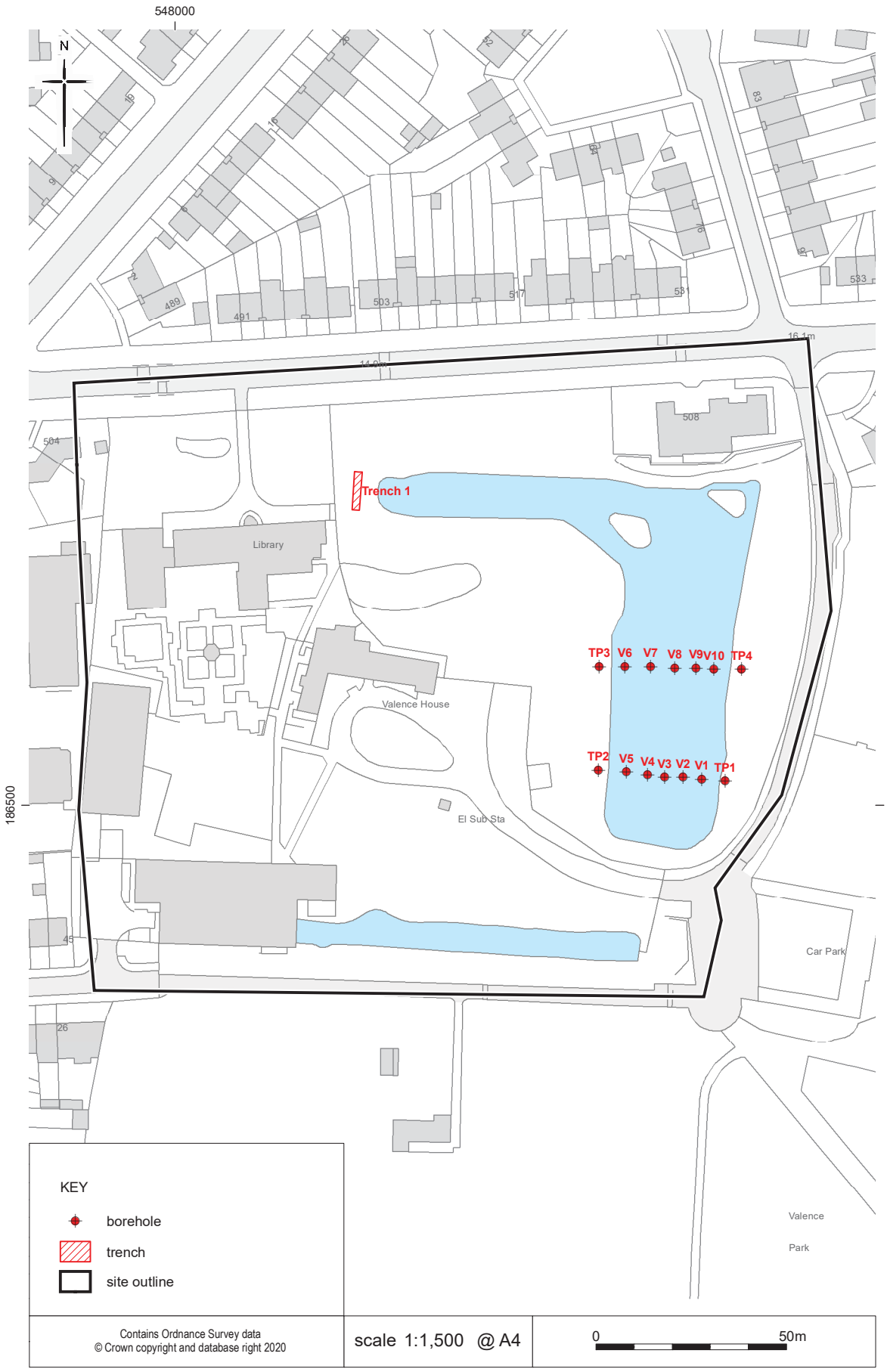


Fig 2 Locations of the boreholes, test pits and Trench 1

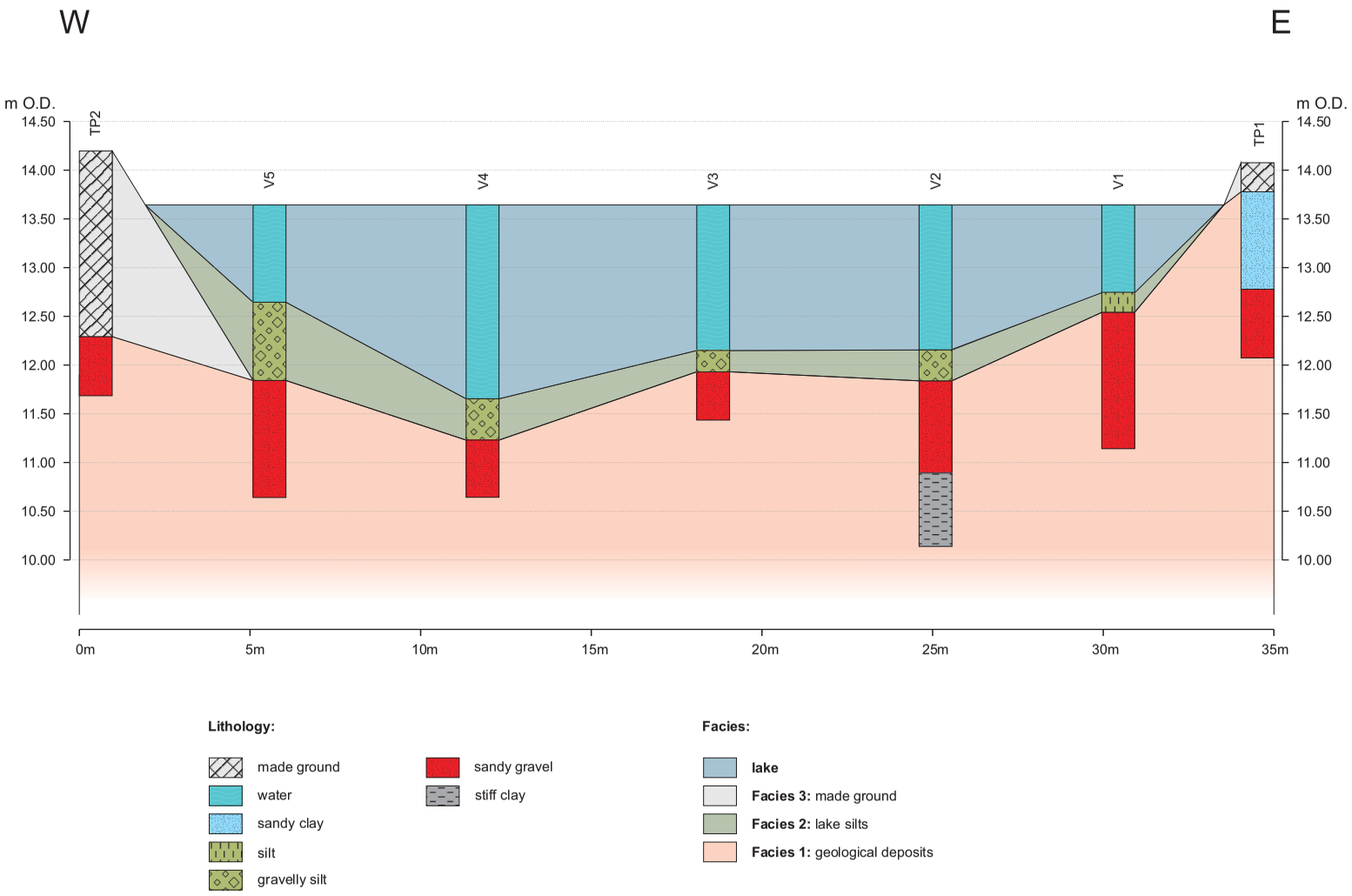


Fig 3 East to west (southerly) transect across the lake

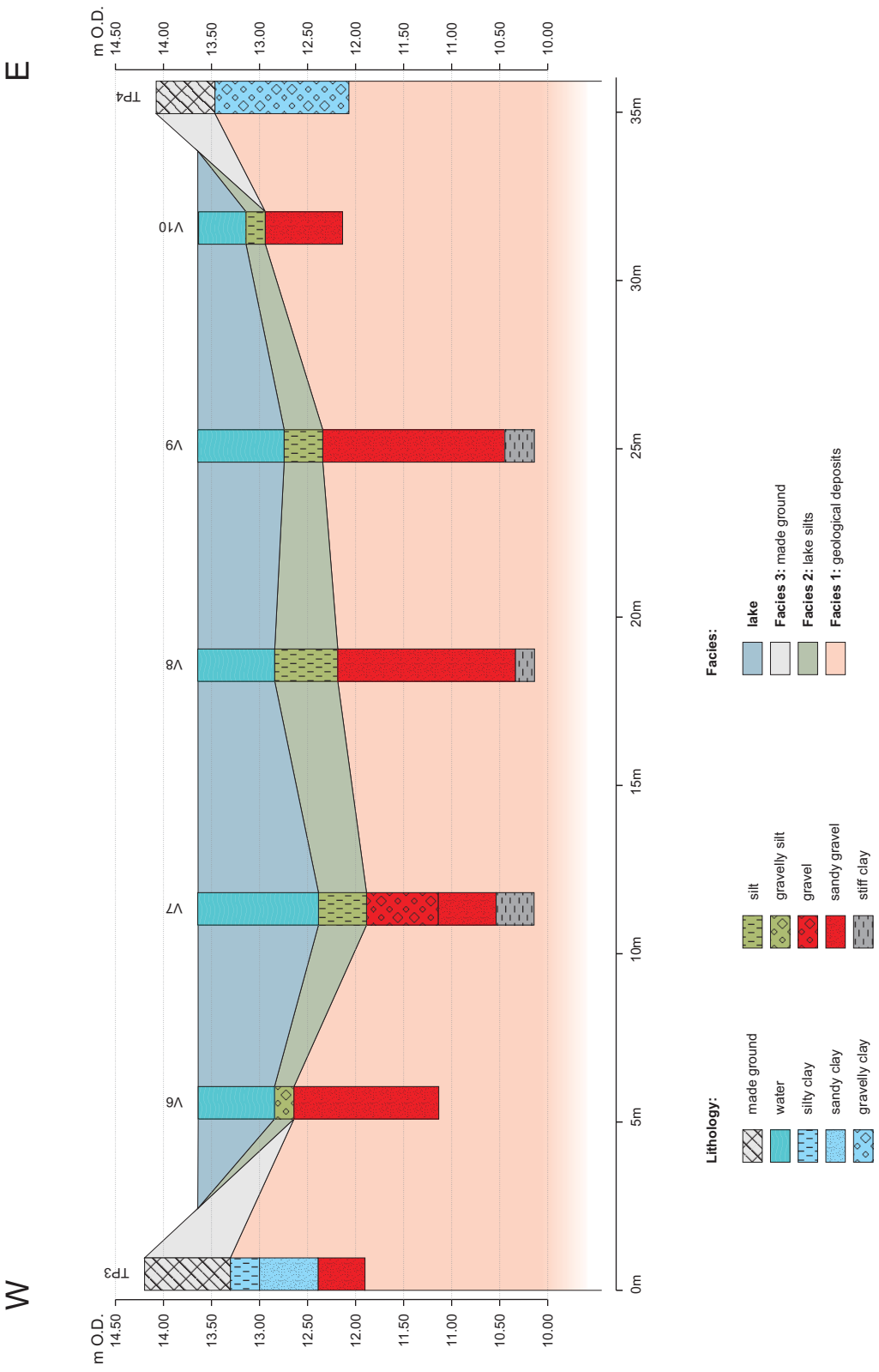


Fig 4 East to west (northerly) transect across the lake

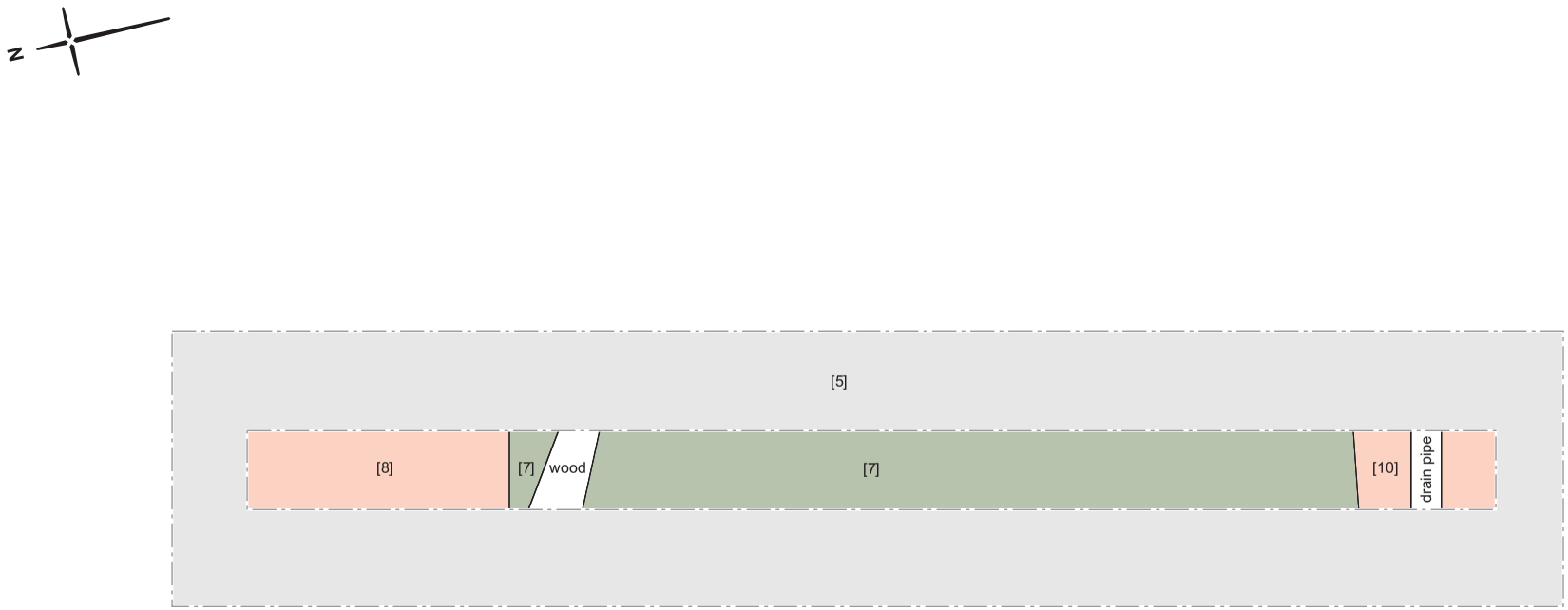
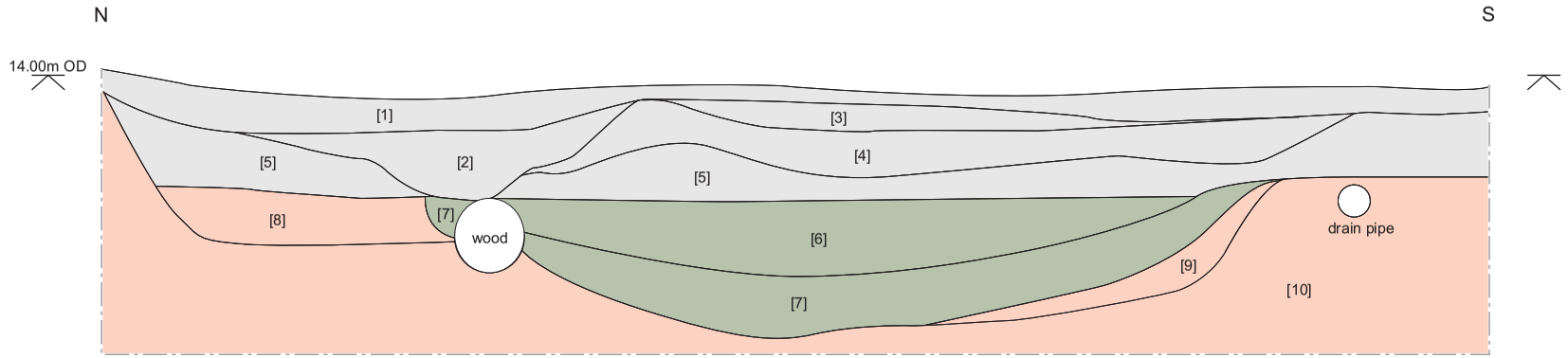


Fig 5 Plan of Trench 1



Facies 3: made ground

Facies 2: lake silts

Facies 1: geological deposits

0 1:50 scale @ A4 2.5m

Fig 6 West facing section of Trench 1