Northamptonshire Archaeology

A geoarchaeological auger survey for the Northampton Marina Development Beckett's Park, Northampton

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Report 10/16

February 2010

REGISTERED ORGANISATION IfA

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QUALITY CONTROL

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Verified by	Anthony Maull		
Checked by	Pat Chapman		
Approved by	Andy Chapman		

(Front cover: General view of the boating lake from the eastern shore)

OASIS report form

PROJECT DETAILS		
Project name	A Geoarchaeological Auger Survey for the Northampton Marina Development, Beckett's Park, Northampton	
Short description	An auger survey was carried out on the islands in the lake adjacent to Beckett's Park, Northampton. The results of the auger survey, combined with map evidence, show that the lake was created as a boating lake, sometime between 1901 and 1927, and that the islands are largely undisturbed remnants of the original floodplain deposits. Boreholes on the south-east and north-west banks of the lake indicate made-ground and disturbance in these areas, with alluvial deposits surviving beneath.	
Project type	Auger survey	
Site status	None	
Previous work	None	
Current land use	Boating lake	
Future work	Watching brief	
Monument type/ period	-	
Significant finds	-	
PROJECT LOCATION		
County	Northamptonshire	
Site address	Northampton	
OS Easting & Northing	47593 25997	
Area	*c* 1.2ha	
Height OD	57m	
PROJECT CREATORS		
Organisation	Northamptonshire Archaeology (NA)	
Project brief originator	-	
Project Design originator	Mark Holmes (NA)	
Director/Supervisor	Simon Carlyle (NA)	
Project Manager	Mark Holmes (NA)	
Sponsor or funding body	Environment Agency	
PROJECT DATE		
Start date	22/1/10	
End date	25/1/10	
ARCHIVES	**Location (Accession no.)**	**Content (eg pottery, animal bone etc)**
Physical		None
Paper	NA store	Site records and related documents (1small archive box)
Digital	NA store	Digital photographs, digital report copies
BIBLIOGRAPHY	Journal/monograph, published or forthcoming, or unpublished client report (NA report)	
Title	A Geoarchaeological Auger Survey for the Northampton Marina Development, Beckett's Park, Northampton	
Serial title & volume	10/16	
Author(s)	Simon Carlyle	
Page numbers	6 text, 3 figs	
Date	January 2010	

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A GEOARCHAEOLOGICAL AUGER SURVEY FOR THE NORTHAMPTON MARINA DEVELOPMENT BECKETT'S PARK, NORTHAMPTON JANUARY 2010

Abstract

In January 2010, Northamptonshire Archaeology carried out an auger survey on the islands in the lake adjacent to Beckett's Park, Northampton. The results of the auger survey, combined with map evidence, show that the lake was created as a boating lake, sometime between 1901 and 1927, and that the islands are largely undisturbed remnants of the original floodplain deposits. Boreholes on the south-east and north-west banks of the lake indicate made-ground and disturbance in these areas, with alluvial deposits surviving beneath.

1 INTRODUCTION

In January 2010, Northamptonshire Archaeology (NA) carried out an auger survey on the islands in the lake adjacent to Beckett's Park, Northampton (NGR: SP 7593 5997; Fig 1). The work, which was commissioned by the Environment Agency, was carried out prior to the conversion of the lake into a new marina. There was no formal brief for the work, although a method statement was prepared by NA prior to work commencing to outline the procedures to be followed (Holmes 2010). The aim of the investigation was to establish whether the islands were constructed from imported or dredged material or were remnants of the original floodplain deposits.

2 BACKGROUND

2.1 Topography and geology

The site, which comprises two small islands set in an artificial lake, is located to the south of Beckett's Park, approximately 0.7km to the south-east of Northampton town centre (Fig 1). The lake is separated from the River Nene to the north and a mill race to the south by a narrow strip of land, approximately 20m wide, which forms the banks of the lake. The lake is situated at the northern edge of the floodplain and lies at *c* 57m aOD, with the ground rising to the north, in the direction of Beckett's Park.

The underlying geology has been mapped as alluvium, overlying Upper Lias mudstones (BGS 1990). Glacial lake deposits occur immediately to the north of the boating lake and First Terrace gravel deposits occur on the south side of the floodplain.

2.2 Historical background

To provide documentary support to the interpretation of the auger survey results, a visit was made to the Northamptonshire Record Office to consult old maps of the area in order to determine when the lake was created and to establish if the islands were original features.

The earliest maps consulted were the Ordnance Survey maps of 1886 (1st edition, 1:10,560) and 1887 (1:2,500). The lake is not shown and the area between the River Nene and the mill race is annotated 'Liable to flood', indicating its low-lying position on the floodplain. The mill race is an artificial channel that was built to serve Nunn Mills, the site of which lay *c* 150m to the east of the site and took its name from the Cluniac nuns of Delapre Abbey nearby. At this time, Beckett's Park was known as 'Cow Meadow', a name that appears on earlier 18th- and 19th-century maps of the area.

The lake does not appear on the Ordnance Survey 2nd edition of 1901 and Beckett's Park is still known as 'Cow Meadow', but by 1927 (OS 6", 1927) the lake has been created and is known as 'Calvesholme Lake' and the islands are clearly shown. A boathouse is shown on the small islet to the west of the lake. The lake must therefore have been created between 1901 and 1927, and was used as a boating lake for recreational purposes. On the 1938 edition of the 6" Ordnance Survey map the lake is referred to as a boating lake and 'Cow's Meadow' has been renamed 'Beckett's Park'.

In addition to the map evidence, the lake and the islands are shown on an aerial photograph of the area, taken in 1947 (Arnold *et al* 2006, 48).

2 AUGER SURVEY METHODOLOGY

The auger survey extended across the two islands and the surrounding banks of the lake, with borehole locations positioned roughly on a north-west to south-east transect. A total of ten boreholes were sunk, with four on each island and one on either bank, so as to be able to provide a cross section of the islands' deposits and relate them to the surrounding banks. Due to the dense undergrowth on the islands, particularly on the western island, several of the boreholes had to be moved off-transect to avoid obstacles. At the time of the survey the weather conditions were poor, with heavy rain and poor visibility, which hampered the use of surveying equipment.

An open-faced, hand operated auger was used for the survey. Due to a collar location peg sheering off on one of the extension rods, it was only possible to auger to a maximum depth of *c* 3m, although the compaction of the underlying clay prevented borehole depth exceeding *c* 2.5m in a number of the boreholes. When localised obstructions were encountered the borehole was moved to a new location. The underlying gravel was not reached in any of the boreholes.

The deposits were recorded on *pro-forma* sheets and the location of each sample was measured in to a baseline and related to the Ordnance Survey National Grid.

Bulk soil samples (*c* 25kg) were taken from the upper 1.5m of strata at three borehole locations. It had originally been intended to take two samples from each island, but the dense undergrowth, fallen trees and tree roots on the western island prevented the excavation of more than one sample pit, so only one sample was obtained from this island. The samples were collected and sealed in plastic bags and then placed inside fabric bags to prevent splitting of the plastic bags and contamination of the samples. The samples were then labelled and sent to Enverity Ltd, Peterborough, for specialist analysis.

3 SURVEY RESULTS

The results of the hand-auger survey are presented below and the locations of the boreholes are shown in Figure 2. Boreholes 2-5 were located on the eastern island, Boreholes 6-9 on the western island and Boreholes 1 and 10 on the south-eastern and north-western shores of the lake respectively. A cross-section through the deposits along the transect is shown in Figure 3. Samples were obtained from Boreholes 3, 4 and 9.

Borehole 1

Deposit description	Depth (m)	Thickness (m)
Soft, dark brown humic silty clay, frequent roots, occasional pebbles (topsoil)	0-0.15	0.15
Firm mid brown silty clay, frequent roots (subsoil)	0.15-0.55	0.40
Soft dark greyish-brown silty clay (alluvium)	0.55-0.70	0.15
Firm greyish-blue clay (alluvium)	0.70-0.78	0.08
Firm bluish-grey clay (alluvium)	0.78-0.90	0.12
Compact dark blue silty clay/gravel lenses (alluvium)	0.90-1.20+	0.30+

Borehole 2

Deposit description	Depth (m)	Thickness (m)
Soft dark brown humic silt (topsoil)	0-0.11	0.11
Soft mid yellowish-brown silty clay (subsoil)	0.11-0.41	0.30
Firm mid bluish-brown silty clay (alluvium)	0.41-1.15	0.74
Soft mid grey silty clay with dark grey silt lenses (alluvium)	1.15-1.92	0.77
Soft mid grey slightly silty clay (alluvium)	1.92-2.40+	0.48+

Borehole 3

Deposit description	Depth (m)	Thickness (m)
Soft dark brown humic silt (topsoil)	0-0.09	0.09
Soft mid yellowish-brown silty clay (subsoil)	0.09-0.52	0.43
Firm mid grey silty clay with yellowish-brown flecks and occasional black silt lenses (alluvium) (Sample 2)	0.52-1.62	1.10
Soft dark grey, almost black clayey silt (alluvium)	1.62-1.72	0.10
Firm light bluish-grey clay (alluvium)	1.72-2.7+	1.0+

Borehole 4

Deposit description	Depth (m)	Thickness (m)
Soft dark brown humic silt (topsoil)	0-0.12	0.12
Soft mid yellowish-brown clayey silt (subsoil)	0.12-0.55	0.43
Firm mid grey silty clay with yellowish-brown flecks and occasional black silt lenses (alluvium) (Sample 1)	0.55-1.13	0.58
Soft dark bluish-grey silty clay (alluvium)	1.13-1.65	0.52
Firm light bluish-grey clay (alluvium)	1.65-2.8+	1.15+

Borehole 5

Deposit description	Depth (m)	Thickness (m)
Soft mid yellowish-brown clayey silt (subsoil)	0-0.62	0.62
Soft light to mid brown silty clay (alluvium)	0.62-0.81	0.19
Firm mid grey silty clay with yellowish-brown flecks and occasional black silt lenses (alluvium)	0.81-1.35	0.54
Firm dark grey silty clay with organic silty lenses (alluvium)	1.35-1.95	0.60
Firm light bluish-grey clay (alluvium)	1.95-2.15	0.20
Soft mid bluish-grey silty clay (alluvium)	2.15-2.5+	0.35+

Borehole 6

Deposit description	Depth (m)	Thickness (m)
Soft dark brown humic silt (topsoil)	0-0.12	0.12
Soft mid yellowish-brown clayey silt (subsoil)	0.12-0.60	0.48
Firm mid grey silty clay with yellowish-brown flecks (alluvium)	0.60-1.71	1.11
Firm light bluish-grey clay (alluvium)	1.71-2.4+	0.7+

Borehole 7

Deposit description	Depth (m)	Thickness (m)
Soft dark brown humic silt (topsoil)	0-0.10	0.10
Soft mid yellowish-brown clayey silt (subsoil)	0.10-0.61	0.51
Soft mid grey silty clay with black organic silt lenses (alluvium)	0.61-0.93	0.32
Firm light bluish-grey silty clay (alluvium)	0.93-1.28	0.35
Firm dark grey clayey silt (alluvium)	1.28-2.1+	0.8+

Borehole 8

Deposit description	Depth (m)	Thickness (m)
Soft dark brown humic silt (topsoil)	0-0.13	0.13
Soft mid yellowish-brown clayey silt (subsoil)	0.13-0.71	0.58
Firm mid grey silty clay with yellowish-brown flecks and black silty lenses (alluvium) (Sample 3)	0.71-1.85	1.14
Firm light bluish-grey clay (alluvium)	1.85-2.3+	0.45+

Borehole 9

Deposit description	Depth (m)	Thickness (m)
Soft dark brown humic silt (topsoil)	0-0.12	0.12
Soft mid yellowish-brown clayey silt (subsoil)	0.12-0.64	0.52
Firm mid grey silty clay with yellowish-brown flecks (alluvium)	0.64-1.8+	1.15+

Borehole 10

Deposit description	Depth (m)	Thickness (m)
Soft, dark brown humic silty clay, frequent roots, occasional pebbles (topsoil)	0-0.37	0.37
Firm mid brown silty clay, frequent roots (subsoil)	0.37-0.84	0.47
Compact light orange clay (made ground?)	0.84-1.14	0.30
Compact mid orange clay and frequent pebbles (made ground?)	1.14-1.19	0.05
Compact light brown silty clay with occasional pebbles (alluvium)	1.19-1.36+	0.17+

5 DISCUSSION

The auger survey encountered a fairly consistent sequence of deposits on both islands, demonstrating that the islands are formed from the remnants of the original floodplain deposits. At a depth of between 1.5m to 2.0m and extending downwards was firm or compact light to mid greyish-blue/bluish-grey alluvial clay. This was overlain by grey or brownish grey alluvial silty clay/clayey silt, which extended upwards to a depth of *c* 0.6m below ground level. Where the roots of trees and other vegetation had penetrated down into this deposit there were localised changes to the colour of the root-bound soil, due to the oxidation of iron compounds, which resulted in a yellowish-brown colouration. Overlying the alluvium was well-developed subsoil, up to 0.5m thick, over which there was thin, fibrous, humic topsoil, approximately 0.1m thick. At the edges of the islands the topsoil had been eroded by the movement of birds at the water's edge. The banks of the lake were more disturbed, with probable made-ground on the north-west bank overlying alluvial deposits.

The interpretation of the results of the auger survey is supported by map evidence, which show that the lake was created as a boating lake, sometime between 1901 and 1927. A boathouse was located on the small islet to the west of the lake and it is referred to as a boating lake on an Ordnance Survey map of 1938. The creation of the boating lake is probably associated with the development of recreational and leisure facilities at Beckett's Park at this time. The edge of the islands, at least in places, has been protected from erosion by the dumping of stone rubble.

Acknowledgements

Northamptonshire Archaeology would like to thank Steve Revell and the Sea Cadets (Northampton Branch) for their kind assistance in providing a boat, without which the auger survey would not have been possible.

BIBLIOGRAPHY

Arnold, M, Josh, H, Eaton, C, and Backer, T, 2006 *Images of England: Northampton,* Tempus

Holmes, M, 2010 *Specification for geoarchaeological auger survey at Northampton Marina, Beckett's Park, Northampton,* Northamptonshire Archaeology

Maps

BGS 1990 Northampton, Geological Survey of Great Britain (England and Wales), Solid and Drift, Sheet **185**, 1:50,000

Ordnance Survey 6" XLV.SW 1887, 1:2,500

Ordnance Survey 6" XLV.SW 1927, 1:2,500

Ordnance Survey 6" XLV.SW 1938, 1:2,500

Ordnance Survey 6" XLV.SW 1950, 1:2,500

Ordnance Survey, 1st edition, 1887, 1:10,560

Ordnance Survey, 2nd edition, 1901, 1:10,560

Northamptonshire Archaeology
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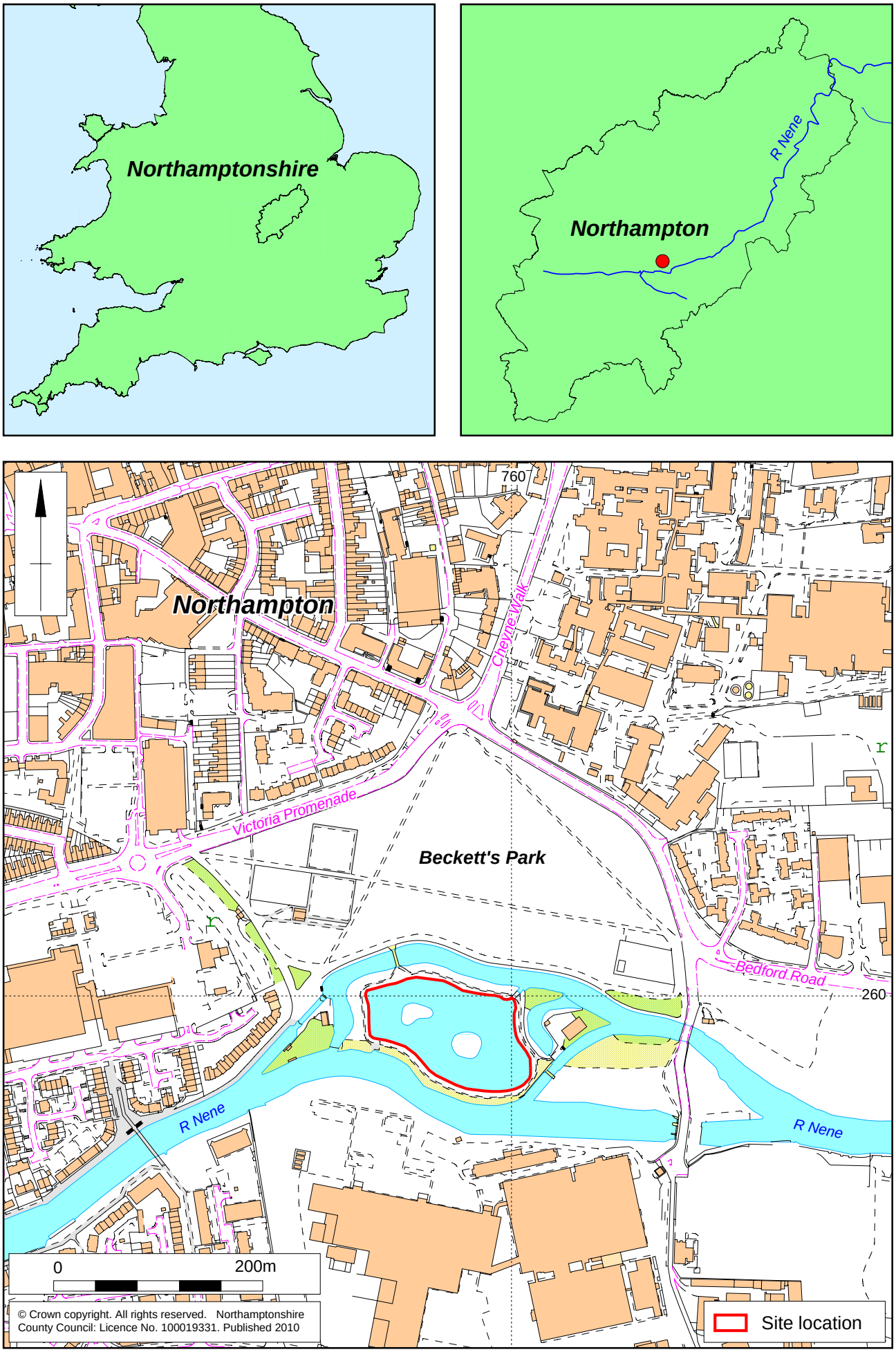
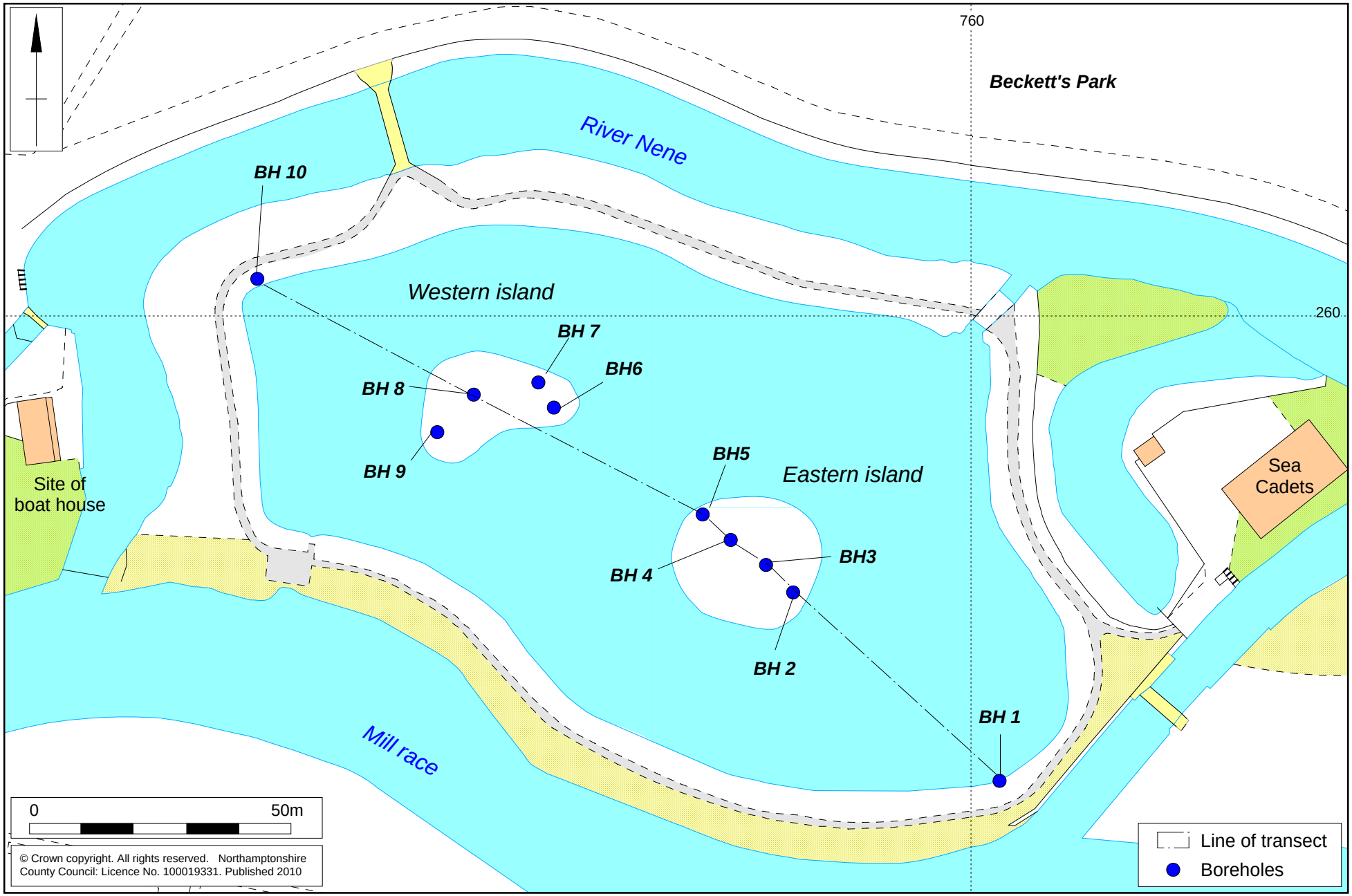


Scale 1:5000

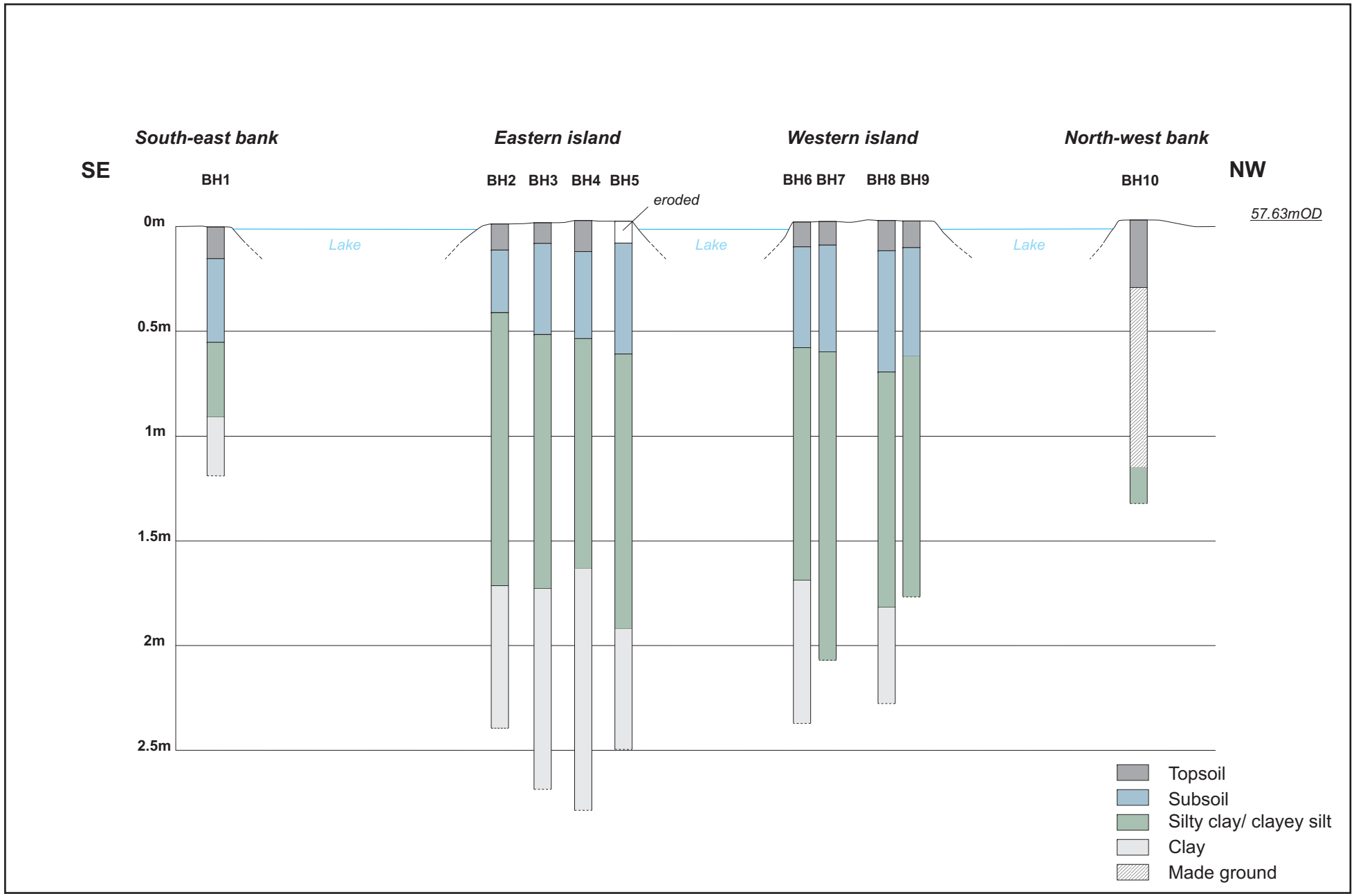
Site location Fig 1

Scale 1:1000



Plan of borehole locations

Fig 2



Vertical scale 1:25, horizontal scale 1:1250

Transect across Beckett's Park lake Fig 3

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