

**A Geoarchaeological
Borehole Survey at Littlestone Golf Course,
St Marys Bay, New Romney, Kent**

**NGR: 608407, 126558
(TR084265)**

**Project No: 5251
Site Code: SBK 11**

**ASE Report No. 2011296
OASIS ID: archaeol6-115534**

Dr Matt Pope

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Abstract

A programme of geo-archaeological borehole evaluation was carried out at the Littlestone Golf Course between St Marys Bay and, New Romney, Kent. The work was undertaken on 28th November 2011 on behalf of Atkins.

Five boreholes were sunk to a metre below the proposed impact depth (3m) using a Geotool window sampler rig. The findings confirmed the results of previous geotechnical investigations at the site in demonstrating the presence of sands and gravels of marine origin. In BH1, a thin (100mm) bed of dark silty sand may indicate a possible channel edge environment of intertidal or alluvial nature. No units consistent with well-preserved organic remains, occupation land surfaces or un-weathered alluvium were encountered. There is no necessity for further fieldwork.

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1.0 INTRODUCTION

1.1 Site Background

- 1.1.1 Archaeology South-East (ASE), a division of University College London Centre for Applied Archaeology (UCLCAA), was commissioned by Atkins to undertake a geoarchaeological borehole survey on the site of Littlestone Golf Course between St Marys and New Romney (NGR 608407, 126558; Fig 1).

1.2 Geology and Topography

- 1.2.1 Previous geo-technical works suggest that the site's geology comprises a series of marine deposits of sand and gravel/shingle below recent topsoil. However, small river channels might be expected cut this area and to have deposited organic material suitable for further palaeoenvironmental investigation. The British Geological Survey shows that the site lies on the boundary between superficial deposits of clay and silt (Tidal Flats), wind-blown sand and shingle/gravel (Storm Beach Deposits) overlying a Sandstone, Siltstone and Mudstone deposit (Hastings Beds).
- 1.2.2 The site is located along the south-eastern edge of the A259 to the south west of St Marys Bay at approximately 5m OD on land currently owned by Littlestone Golf Club

1.3 Planning Background

- 1.3.1 The site forms part of The Dungeness, Romney Marsh & Rye Bay Site of Special Scientific Interest (SSSI), the Dungeness to Pett Level Special Protection Area (SPA), the Dungeness Special Area of Conservation and the proposed Dungeness, Romney Marsh & Rye Bay Wetland of International Importance under the Ramsar Convention (Ramsar site).
- 1.3.2 Archaeology South-East was commissioned by Atkins on behalf of their client Veolia Water Southeast Ltd. (VWSE) to conduct a geo-archaeological investigation, in advance of works associated with a replacement water main. These are permitted works, not subject to normal planning consent; however as part of a commitment to best practice, advice was sought from the Heritage Conservation Group, Kent County Council, as part of the Assent for the new water main given by Natural England, the body responsible for approving works within designated conservation areas.
- 1.3.3 A Written Scheme of Investigation was prepared by ASE (2011), and submitted to KCC for approval in advance of the geoarchaeological borehole survey. This document set out the methodology and the aims and objectives to be followed

1.4 Aims and Objectives

- 1.4.1 Previous geo-technical interventions in the study area had not been inspected by a geo-archaeologist. Given the geoarchaeological potential demonstrated at other sites around New Romney, it was decided, in consultation with the Heritage Conservation Group, Kent County Council, that further observations should be monitored. A programme of geoarchaeological investigation was developed to achieve the following evaluation aims:
1. To check the accuracy of the geo-technical investigation in order to inform geo-archaeological research.

2. To assess the sediments in terms of lithology and sedimentary structure in order to establish the overall stratigraphic framework of the sediments and correlation with other local sequences.
3. To assess the presence of river channels through the study area and to recover stratified samples from organic sediments with the potential to preserve environmental indicators, such as pollen, diatoms etc.

1.5 Scope of Report

- 1.5.1 This report documents the geoarchaeological borehole survey carried out by Dr Matt Pope on the 28th of November 2011. On site survey was carried out by Rob Cole and illustrations were prepared by Justin Russell. The fieldwork was managed by Jon Sygrave and the post-excavation analysis by Jim Stevenson

2.0 ARCHAEOLOGICAL BACKGROUND

2.1 Introduction

- 2.1.1 New Romney may have been a trading centre and influential port from the early medieval period. It developed into an important port and market town and was one of the original five Cinque Ports. However, the town declined as a result of natural storms and the diversion of the River Rother.

2.2 Geoarchaeological Background

- 2.2.1 Previous investigations in New Romney have demonstrated the dynamic nature of geoarchaeological formation processes in the area. Sequences of wind-blown, storm beach gravel and marine alluvium deposits have formed as a result of the town's the exposed location.
- 2.2.2 Prior to the later 13th century, the area immediately to the west of the Littlestone golf course and possibly the site itself, might have been open foreshore. It is documented that, a long period of bad weather during the 13th century culminated in the Great Storm of 1287 during which New Romney harbour was blocked and the course of the River Rother diverted to Rye. Storm deposits probably associated with the Great Storm have been identified in New Romney, at two locations on Fairfield Road and one at Marsh Academy just to the north and west of the current site (Linklater 2001; Draper & Meddens 2009; 68; ASE 2010).
- 2.2.3 As a result of the storms a large shingle barrier was formed in the vicinity of the site. Stephen Rippon (2002, 95, Fig.6.11) suggests (based on Green's 1968 soil survey) that most of the area to the north and west of the current site was heavily alluviated, becoming marshland by the 14th century.

3.0 METHODOLOGY

3.1 Excavation of Boreholes

- 3.1.1 The Written Scheme of Investigation (ASE 2011) originally specified that up to 10 geoarchaeological boreholes may be required. However, in consultation with Heritage Conservation Group, Kent County Council, it was decided that the 5 boreholes, located on Figure 2, would be adequate to characterise the geoarchaeological sequence should the cores extracted show that no material of organic significance was found. These retain their original numbering, Boreholes 1, 3, 5, 6 and 7.
- 3.1.2 The boreholes were drilled using a GeoTool GTR790 window sampler/borehole rig capable of recovering sleeved cores.

3.2 Environmental Sampling Strategy

- 3.2.1 Where marine deposits were encountered a log was made of the deposits but no samples were recovered. Where organic riverine deposits were encountered, pinch samples were recovered from sleeved cores, to allow for further study of pollen and other microscopic organic remains, should this be required at a later stage of work; these samples were not analysed at this stage.

3.3 Recording

- 3.3.1 Recording, reporting and post excavation work were in accordance with the KCC Standard Conditions Part B (KCC 2009).

3.4 Site Archive

- 3.4.1 ASE informed New Romney museum that the fieldwork would be taking place and that an archive would be generated. Owing to a lack of capacity the museum declined to accept the archive and it will continue to be housed at Archaeology South-East offices until a suitable long-term storage solution can be found. The archive is quantified in Table 1

Number of Contexts	
No. of files/paper record	1
Plan and sections sheets	
Bulk Samples	
Photographs	
Bulk finds	
Registered finds	
Environmental flots/residue	

Table 1: Quantification of site archive

4.0 RESULTS

4.1 Overview

4.1.1 All of the boreholes revealed a similar sequence of marine sands and gravels overlain by sandy subsoil and topsoil, with the exception of Borehole 1 which also revealed a thin deposit (c.100mm) of dark grey alluvium in between layers of marine sands. A detailed record of the sequence of deposits in each borehole is presented in tabulated form below (Tables 2-6).

4.1.2 Two pinch samples were taken from a 50mm sleeved core through the alluvium deposit in Borehole 1. As stated in the WSI (ASE 2011), the purpose of this was to ensure that analysis of pollen and other microscopic organic remains would be possible, should this be proven worthwhile by the results of the evaluation; analysis of these samples is therefore not within the scope of the current work.

LOCATION BH1		MAX ELEVATION 4.8m AOD				
DEPTH	STRAT	LITHOLOGY	COLOUR	CLAST	SAMPLE	NOTES
0	Topsoil	Medium Sand	Dark Yellowish Brown	1% SR Flint 10-40mm		
0.1	Subsoil	Fine Medium Sand	Dark Yellowish Brown	5% R Flint 10-40mm		
0.6	Marine Sand	Medium Sand	Light Yellowish Brown	5% R Flint 40-60mm		Loose
1	Alluvium	Silty Clay	Dark Grey	-	Sampled	
1.1	Marine Sand	Medium Sand	Light Yellowish Brown	-		
2	Marine Sand	Medium Sand	Greenish Yellow	-		
3.0	Base of Hole					

Table 2: Sequence of deposits in Borehole 1

LOCATION BH3		MAX ELEVATION 4.5m AOD				
DEPTH	STRAT	LITHOLOGY	COLOUR	CLAST	SAMPLE	NOTES
0	Topsoil	Medium Sand	Dark Yellowish Brown	1% SR Flint 10-40mm		
0.1	Subsoil	Fine Medium Sand	Dark Yellowish Brown	5% R Flint 10-40mm		
0.25	Marine Sand	Medium Sand	Light Yellowish Brown	5% R Flint 40-60mm		
0.75	Marine Sand	Medium Sand	Light Yellowish Brown	5% R Flint 40-60mm		
1	Marine Sand	Medium Sand	Light Yellowish Brown	-		
2	Marine Sand	Medium Sand	Yellow with red laminations	-		Waterstrike 2.1m
3.0	Base of Hole					

Table 3: Sequence of deposits in Borehole 3

LOCATION BH5		MAX ELEVATION 4.3m AOD				
DEPTH	STRAT	LITHOLOGY	COLOUR	CLAST	SAMPLE	NOTES
0	Topsoil	Medium Sand	Dark Yellowish Brown			
0.1	Subsoil	Fine Medium Sand	Dark Yellowish Brown	5% R Flint 15-25mm		
0.4	Marine Sand	Coarse Sand	Light Yellowish Brown			
0.6	Marine Sand	Medium Sand	Light Yellowish Brown	20% SR Flint 5-15mm		
2.1	Marine Sand	Medium Sand	Green Yellowish Brown	-		
2.8	Marine Sand	Medium Sand	Yellowish Brown	-		Waterstrike 2.m
3.0	Base of Hole					

Table 4: Sequence of deposits in Borehole 5

LOCATION BH6		MAX ELEVATION 4.2m AOD				
DEPTH	STRAT	LITHOLOGY	COLOUR	CLAST	SAMPLE	NOTES
0	Topsoil	Medium Sand	Dark Yellowish Brown			
0.1	Subsoil	Fine Medium Sand	Dark Yellowish Brown	5% R Flint 15-25mm		
0.5	Marine Sand	Coarse Sand	Light Yellowish Brown	-		
0.7	Marine Sand	Medium Sand	Light Yellowish Brown	-		
1	Marine Sand	Medium Sand	Green Yellowish Brown	-		Fine bedding
1.5	Marine Sand	Medium Sand	Yellowish Brown	5% R Flint 10-20mm		Waterstrike 2.m
3.0	Base of Hole					

Table 5: Sequence of deposits in Borehole 6

LOCATION BH7		MAX ELEVATION 4.3m AOD				
DEPTH	STRAT	LITHOLOGY	COLOUR	CLAST	SAMPLE	NOTES
0	Topsoil	Medium Sand	Dark Yellowish Brown			
0.1	Subsoil	Fine Medium Sand	Dark Yellowish Brown	5% R Flint 15-25mm		
0.6	Marine Sand	Coarse Sand	Light Yellowish Brown			
1.0	Marine Gravel	Medium Sand	Light Yellowish Brown	80% R flint 10-30mm		
2.25	Marine Sand	Medium Sand	Light Yellowish brown	-		
2.8	Marine Sand	Medium Sand	Yellowish Brown	10% R flint 5-20mm		Waterstrike 2.m
3.0	Base of Hole					

Table 6: Sequence of deposits in Borehole 7

5.0 DISCUSSION AND CONCLUSION

5.1 Overview

- 5.1.1 With the exception of a thin horizon of dark silty sand within the sands in Borehole 1, all the observed boreholes showed a consistent sequence of marine gravel and sand overlain by thin subsoil and topsoil. The borehole survey was therefore able to confirm the geotechnical observations and BGS mapping which indicated no alluvial deposits over most of the study area.
- 5.1.2 A seam of dark sand observed in Borehole 1, does however represent a possible channel edge environment of intertidal or alluvial origin. No obvious organic material was observed but it is suspected that the colour of the deposit derives from the presence of organic material rather than ground contaminants.

5.2 Potential for Preservation of Palaeoenvironmental Remains

- 5.2.1 While the pinch samples recovered from the alluvium in Borehole 1 might contain some pollen and microscopic organic remains, the limited stratigraphic distribution and relatively high energy lithological context renders the deposits of very limited palaeoenvironmental value.

5.3 Conclusion

- 5.3.1 The recorded sequence is consistent with observations previously noted in New Romney of the deposition of marine sand and gravels by processes of storm beach formations/reworking and the deposition of windblown sand as part of incipient dune systems. While no dating evidence was recovered, it is suspected that the full range of observed marine deposits could relate to the recorded formation of shingle bars in the vicinity of New Romney during medieval and post-medieval storm events.
- 5.3.2 The geoarchaeological borehole survey confirmed the results of the previous geotechnical investigations on the site. Given that no units consistent with well-preserved organic remains, occupation land surfaces or un-weathered alluvium were encountered, there is no necessity for further fieldwork.

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Acknowledgements

Thanks are given to the landowner (the Littlestone Golf Course) to the client (Atkins/VWSE) and to Wendy Rodgers of the Heritage Conservation Group at Kent County Council.

HER Summary Form

Site Code	SBK11					
Identification Name and Address	Littlestone Golf Course, New Romney, St Mary's Bay, Kent, TN28 8RB					
County, District &/or Borough	Kent					
OS Grid Refs.	608407, 126558					
Geology	Superficial clay and silt (Tidal Flats) and wind-blown sand and shingle/gravel (Storm Beach Deposits)					
Arch. South-East Project Number	5251					
Type of Fieldwork	Eval.	Excav.	Watching Brief	Standing Structure	Survey	Other ✓
Type of Site	Green Field	Shallow Urban	Deep Urban	Other ✓		
Dates of Fieldwork	Eval.	Excav.	WB.	Other Borehole survey 28/11/11		
Sponsor/Client	Atkins/VWSE					
Project Manager	Jon Sygrave					
Project Supervisor	Matt Pope					
Period Summary	Palaeo.	Meso.	Neo.	BA	IA	RB
	AS	MED	PM	Other Modern		
<p>100 Word Summary</p> <p>A programme of geo-archaeological borehole evaluation was carried out at the Littlestone Golf Course between St Marys Bay and, New Romney, Kent. The work was undertaken on 28th November 2011 on behalf of Atkins/VWSE.</p> <p>Five boreholes were sunk to a metre below the proposed impact depth (3m) using a Geotool window sampler rig. The findings confirmed the results of previous geotechnical investigations at the site in demonstrating the presence of sands and gravels of marine origin. In BH1, a thin (100mm) bed of dark silty sand may indicate a possible channel edge environment of intertidal or alluvial nature. No units consistent with well-preserved organic remains, occupation land surfaces or un weathered alluvium were encountered.</p>						

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OASIS ID: archaeol6-115534

Project details

Project name	A Geoarchaeological Borehole Survey at Littlestone Golf Course, St Mary's Bay, New Romney, Kent
Short description of the project	A programme of geo-archaeological borehole evaluation was carried out at the Littlestone Golf Course between St Marys Bay and, New Romney, Kent. The work was undertaken on 28th November 2011 on behalf of Atkins. Five boreholes were sunk to a metre below the proposed impact depth (3m) using a Geotool window sampler rig. The findings confirmed the results of previous geotechnical investigations at the site in demonstrating the presence of sands and gravels of marine origin. In BH1, a thin (100mm) bed of dark silty sand may indicate a possible channel edge environment of intertidal or alluvial nature. No units consistent with well-preserved organic remains, occupation land surfaces or un weathered alluvium were encountered.
Project dates	Start: 28-11-2011 End: 28-11-2011
Previous/future work	No / Not known
Any associated project reference codes	5251 - Contracting Unit No.
Any associated project reference codes	SBK11 - Sitecode
Type of project	Field evaluation
Site status	Site of Special Scientific Importance (SSSI)
Current Land use	Other 14 - Recreational usage
Monument type	NONE None
Significant Finds	NONE None
Methods & techniques	'Sample Trenches'
Development type	Pipelines/cables (e.g. gas, electric, telephone, TV cable, water, sewage, drainage etc.)
Prompt	Voluntary/self-interest
Position in the planning process	Not known / Not recorded

Project location

Country	England
Site location	KENT SHEPWAY NEW ROMNEY St Mary's Bay, New Romney
Postcode	TN29 0ET
Study area	1.00 Kilometres
Site coordinates	TR 082 248 50.9842629050 0.966660123976 50 59 03 N 000 57 59 E Point
Height OD / Depth	Min: 2.00m Max: 5.00m

Project creators

Name of Organisation	Archaeology South East
Project brief originator	Kent County Council
Project design originator	Archaeology South-East
Project director/manager	Jon Sygrave
Project supervisor	Matt Pope
Type of sponsor/funding body	Water Authority/Company
Name of sponsor/funding body	Atkins/VWSE

Project archives

Physical Archive Exists?	No
Digital Archive recipient	n/a
Paper Archive recipient	n/a
Paper Media available	'Notebook - Excavation',' Research',' General Notes','Photograph'
Paper Archive notes	Archive offered to New Romney museum but not accepted due to full capacity

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
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Title	A Geoarchaeological Borehole Survey at St Mary's Bay, New Romney, Kent
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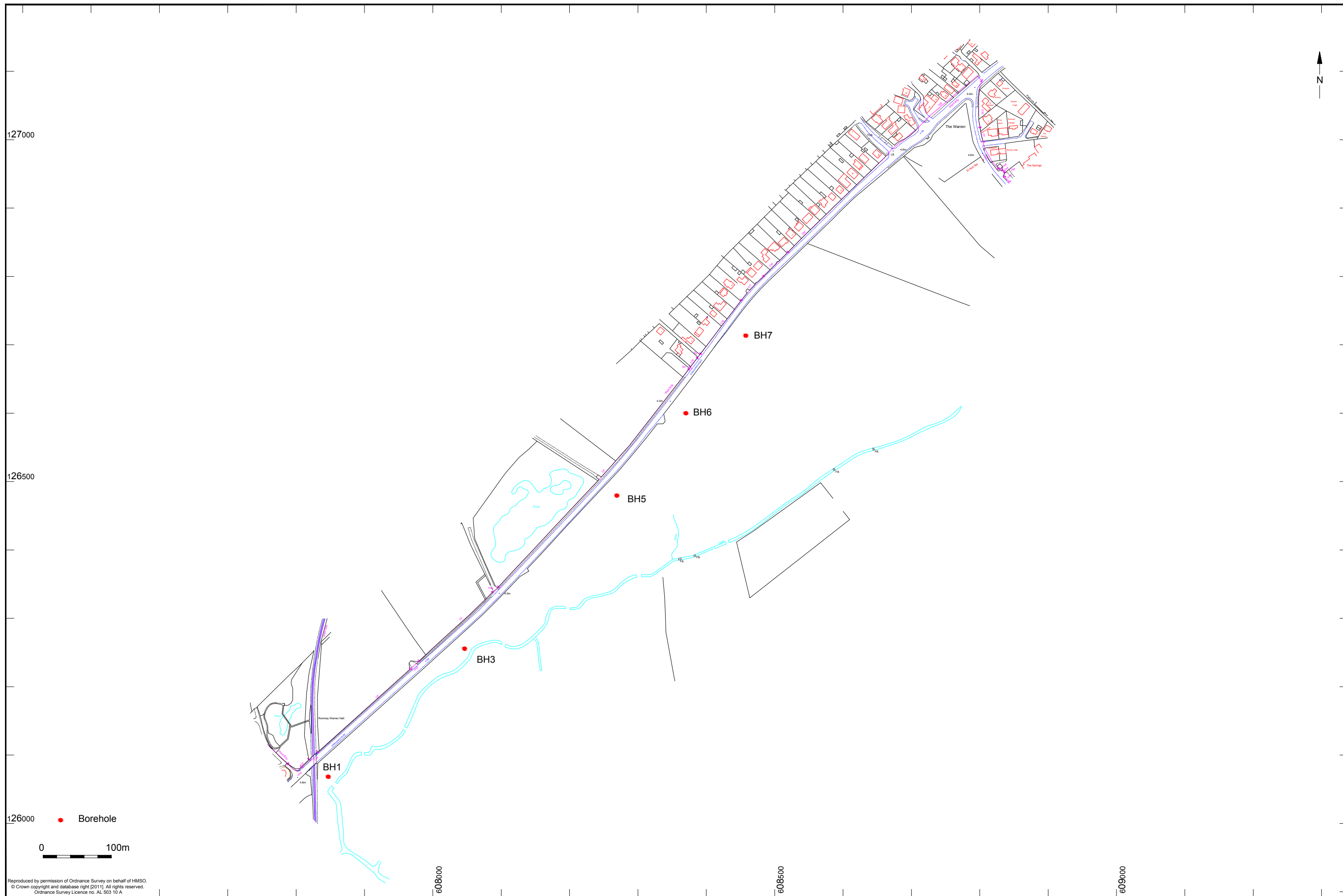
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© Archaeology South-East		St Mary's Bay	Fig. 1
Project Ref: 5251	Dec 2011	Site location	
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