AN ARCHAEOLOGICAL WATCHING BRIEF AT CLEVE HILL, GRAVENEY KENT

SITE CODE: KCHG09

AUGUST 2010

PRE-CONSTRUCT ARCHAEOLOGY

DOCUMENT VERIFICATION

Site Name

Cleve Hill, Graveney Kent

Type of project

Archaeological Watching Brief

Quality Control

Pre-Construct Archaeology Limited Project Code		K2056	
	Name & Title	Signature	Date
Text Prepared by:	Guy Seddon		13.08.10
Graphics Prepared by:	Jennifer Simonson		13.08.10
Graphics Checked by:	Josephine Brown		13.08.10
Project Manager Sign-off:	Charlotte Matthews		13.08.10

Revision No.	Date	Checked	Approved

Pre-Construct Archaeology Ltd Unit 54 Brockley Cross Business Centre 96 Endwell Road London SE4 2PD An Archaeological Watching Brief at Cleve Hill, Graveney, Kent

Site Code: KCHG09

Ordnance Survey National Grid Reference: TR 0518 6394

Written by Guy Seddon

Project Managers: Helen Hawkins and Charlotte Matthews

Commissioning Client: RPS Planning and Development on behalf of London Array Limited

Contractor:Pre-Construct Archaeology Limited Unit 54 Brockley Cross Business Centre 96 Endwell Road Brockley London SE4 2PD

Tel:020 7732 3925Fax:020 7732 7896E-mail:cmatthews@pre-construct.comWeb:www.pre-construct.com

© Pre-Construct Archaeology Limited August 2010

© The material contained herein is and remains the sole property of Pre-Construct Archaeology Limited and is not for publication to third parties without prior consent. Whilst every effort has been made to provide detailed and accurate information, Pre-Construct Archaeology Limited cannot be held responsible for errors or inaccuracies herein contained.

CONTENTS

1	SUMMARY	2
2	INTRODUCTION	3
3	ARCHAEOLOGICAL AND HISTORICAL BACKGROUND	6
4	AIMS AND OBJECTIVES	8
5	ARCHAEOLOGICAL WATCHING BRIEF DURING UNEXPLODED ORDNANCE LOCATIO	N
	AND REMOVAL	9
6	ARCHAEOLOGICAL WATCHING BRIEF DURING EXCAVATION OF A TRENCH FOR PIL	LE
	CAPS	11
7	ARCHAEOLOGICAL WATCHING BRIEF DURING GROUNDWORKS	12
8	CONCLUSION	14
9	BIBLIOGRAPHY	15
10	ACKNOWLEDGEMENTS	17

APPENDICES

- Appendix 1 Context Descriptions
- Appendix 2 Matrix
- Appendix 3 Oasis Form

FIGURES

- Figure 1 Site Location
- Figure 2 Location of metal finds identified by BACTEC from magnetometer survey
- Figure 3 Piling Trench Location
- Figure 4 Area of topsoil stripping
- Figure 5 Area of excavation

PLATES

- Plate 1 Excavation of the trench for pile caps
- Plate 2 Topsoil stripping

1 SUMMARY

- 1.1 Pre-Construct Archaeology Ltd (PCA) was commissioned by RPS Planning and Development on behalf of London Array Ltd (LAL) to undertake an archaeological watching brief on land at Cleve Hill, Graveney, Kent, centred on OS NGR TR 05201 63998 (hereafter referred to as the Site). Planning permission has been received for a new electrical substation on the Site, which is being constructed as part of the onshore development works associated with the LAL offshore wind farm off the north Kent coast. A condition requiring a programme of archaeological evaluation and mitigation has been placed on its planning permission. An evaluation undertaken by PCA in 2008 uncovered a number of Iron Age features. The Archaeological Officer at Kent County Council therefore recommended a targeted archaeological watching brief to be maintained during topsoil stripping and machine excavation of the substation footprint. The watching brief was carried out from June to September 2009, during the excavation of target holes to locate and remove unexploded ordnance (UXO) from the Site; the removal of topsoil from across the development area; the reduction of Cleve Hill to create a level platform for the construction of the substation buildings and the excavation of a trench for a number of pile caps.
- 1.2 Although archaeological features were recorded during the 2008 evaluation, none were observed during the watching brief on groundworks. In the evaluation the features were found in the north-eastern part of the Site and were sealed by subsoil which was not removed during the watching brief in this part of the site. Only the topsoil was stripped in this part of the Site leaving any archaeological features or deposits buried under the subsoil. Finds recovered from the topsoil during the stripping of the Site included Roman pottery and brick, medieval pottery, a 17th century brick fragment and an 18th century crotal bell. Many of these finds came from redeposited topsoil since it sealed 20th century made ground.
- 1.4 No archaeological features were observed during the watching brief on the excavation of the pile trench, the excavation of Cleve Hill to create a level platform for the substation buildings or the excavation of target holes to locate and remove UXO. The pile trench only cut into subsoil and any archaeological features would have been sealed beneath this deposit.
- 1.5 The most interesting finds from the Site were those recovered during the watching brief on the excavation of target holes to locate and remove UXO. These all dated to Second World War and comprised 19 German shells and the tailfin of an expended British mortar. The site of Cleve Marsh to the north of the Site, was used from March 1941 as the location for a 'Starfish' Decoy site designed to divert enemy bombers from attacking the Royal Naval Dockyard at Sheerness. The decoy site was designed to look like Sheerness at night by the use of controlled fires and lighting effects. The German shells had presumably been fired from German fighter planes; the pilots being successfully fooled by the Cleve Marsh decoy, believing that they were firing on Sheerness. The Royal Navy decoy site was kept so secret that at one time during the Second World War it came under mortar attack from the British army, which may explain the presence of the British mortar.

2 INTRODUCTION

2.1 Project Background

- 2.1.1 Pre-Construct Archaeology Ltd (PCA) was commissioned by RPS Planning and Development (RPS) on behalf of London Array Ltd (LAL) to undertake an archaeological watching brief on land at Cleve Hill, Graveney, Kent, centred on Ordnance Survey National Grid Reference TR 05201 63998 (hereafter referred to as the Site, **Figure 1**). Planning permission has been received for a new electrical substation on the Site. The substation is being constructed as part of the onshore development works associated with the London Array offshore wind farm. The wind farm will consist of up to 341 offshore turbines installed on the Long Sand and Kentish Knock sandbanks and in the Knock Deep Channel off of the north Kent coast.
- 2.1.2 An archaeological condition requiring a programme of archaeological evaluation and mitigation has been placed on the planning permission for the London Array scheme. This states:

Archaeological Works

- 10. No works shall be carried out until the developer has secured the implementation of:-
- *i)* archaeological field evaluation works in accordance with a specification and written timetable which has been submitted to and approved in writing by the Local Planning Authority; and
- ii) following on from the evaluation, any safeguarding measures to ensure preservation in situ of important archaeological remains and/or further archaeological investigation and recording in accordance with a specification and written timetable which has been submitted to and approved by the Local Planning Authority.
- 2.1.3 An archaeological evaluation was undertaken by Pre-Construct Archaeology Ltd in July and August 2008 (Holden 2008) in response to Part i of Condition 10. Fifty three trenches were excavated and archaeological deposits were found from a number of periods across the Site. Ditches, pits, and postholes containing Iron Age pottery were found in the north-eastern part of the Site and the presence of domestic material suggests some form of settlement.
- 2.1.4 In view of the results of the evaluation Ben Found, Archaeological Officer at Kent County Council (hereafter the Curator), recommended a targeted archaeological watching brief to be maintained during topsoil stripping, machine excavation of the substation footprint or for landscaping and on other associated access works in response to Part ii of Condition 10. The project is being completed in several phases, and the archaeological watching brief formed part of Phase 1 and therefore part of the archaeological mitigation of the development site.
- 2.1.5 The archaeological watching brief was carried out during the excavation of target holes to locate and remove unexploded ordnance from the site; the removal of topsoil from across the development area; the reduction Cleve Hill to create a level platform for the construction of the

substation buildings and the excavation of a trench for a number of pile caps. The watching brief was carried out as part of an archaeological mitigation strategy in accordance with a specification produced by Kent County Council (Kent County Council 2009), a Written Scheme of Investigation (RPS Planning & Development 2008) and method statements produced by Pre-Construct Archaeology Ltd (Hawkins 2009a, 2009b and 2009c). The method statements were agreed in advance of the fieldwork by the Curator. The watching brief was also undertaken in accordance with guidance given in the document by the Institute for Archaeologists' *Standards and Guidance for an archaeological watching brief* (1994, revised 2001 and 2008). The watching brief was carried out from June to September 2009. The site was assigned the code KCHG09.

2.2 Site location

- 2.2.1 The Site lies to the west of Seasalter Road and to the north of Graveney Hill (**Figure 1**). It is bounded by Cleve Marshes to the north, by Crown Cottages and agricultural buildings to the west and by farmland to the east and south. Before groundworks for the LAL development the Site was agricultural land. The North Kent Coast, at the mouth of the Swale Estuary, lies *c*.800m to the north of the Site centre, with extensive agricultural flats now occupying the reclaimed marsh.
- 2.2.2 Graveney Hill peaks at *c*.17m above Ordnance Datum (aOD) beyond the Site boundary to the south. On the higher ground within the Site Cleve Hill has a height of some 12m aOD and falls away to marshland to the north and east to *c*.2m aOD.

2.3 Geology

- 2.3.1 The information below is taken from the Specification for archaeological investigations (Kent County Council 2009).
- 2.3.2 According to current data from the British Geological Survey (BGS Sheet 273), the underlying geology of the proposed substation site consists of clay and silt of the London Clay Formation. On the northern and eastern boundaries of the site the London Clay is shown as being overlain by alluvium. An area of mass movement resulting from a landslip is shown on the north-western part of the proposed substation footprint.
- 2.3.3 The BGS data has been refined following the results of recent geotechnical site investigations (Wessex Archaeology 2008a; 2008b), the archaeological trial trenching by Pre-Construct Archaeology Ltd (Holden 2008) and other monitoring works (Wessex Archaeology 2008c). The higher ground of Cleve Hill in the south/central parts of the Site consisted of ploughsoil overlying London Clay. On the north facing slope of Cleve Hill areas of 're-worked' (redeposited) London Clay were identified. This re-worked London Clay varied in thickness between 0.5m and 3.5m and is probably the result of modern-landforming, perhaps associated with a slip-event. On the north-eastern/eastern side of the site, towards the base of the slope, a deposit of colluvium has

been identified which varies between 0.3 and 0.9m. in depth. On the lowermost parts of the site layers associated with the saltmarsh and former foreshore boundaries were identified.

3 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

- 3.1 The following section is mainly compiled from the Archaeological Background presented in the Written Scheme of Investigation (RPS 2008):
- 3.2 The Historic Environment section of the Environmental Statement sets out the archaeological background to the development site principally using desk-based data sources that have included the Kent Sites and Monuments Record, aerial photographs, and historic maps/Admiralty Charts; augmented by a walkover survey (RPS 2005). This has been further informed by subsequent investigations including two archaeological watching brief on geotechnical test pits (Wessex Archaeology 2008a; 2008b), archaeological mitigation works entailing strip, map and sampling for the National Grid works (Wessex Archaeology 2008c), geotechnical investigations (Geotechnical Engineering Limited 2006), a geophysical survey on Cleve Hill (Archaeological Surveys Ltd 2008), an archaeological evaluation by Pre-Construct Archaeology Ltd (Holden 2008) and building recording by Pre-Construct Archaeology Ltd (Thompson and O'Gorman 2009).
- 3.3 Although there are no Scheduled Monuments within the Site, the development lies within an area where archaeological remains including the *c*.9th century Graveney Boat, earthworks associated with a medieval saltworking industry, former sea defences and World War II features survive.
- 3.4 An undated mound identified as a cropmark on aerial photographs lies within the corridor of the onshore cable route. Although not visible as an extant earthwork or evident by residual finds, below ground remains may still survive. Several known wrecks, probable remains of fish traps, anchorages and boom defences lie within the area of the offshore cable route through the foreshore/inter-tidal zone.
- 3.5 The baseline data suggests that there is also a potential for currently unknown archaeological remains to survive on the development site that could include:
 - Former land surfaces of early prehistoric date that may contain "land-based" sites with associated finds and features on the reclaimed marsh and inter-tidal zone.
 - Palaeo-environmental evidence for changes in the environment including those present in surviving peat deposits on the reclaimed marsh and inter-tidal zone.
 - Features and finds associated with prehistoric, Roman and medieval activity on the higher ground of Cleve Hill.
 - Buried World War II remains.
 - Former sea defence features including those delineating possible Roman and medieval shorelines with others represented by derelict barges on the current shoreline.

- Features and finds associated with human activity and exploitation of the coastal marsh including remains associated with the medieval and pre-medieval salt industry, trackways, decoy ponds, and former and reclamation features as evident by palaeo-ditches and banks.
- Features and finds associated with human activity and exploitation of the shoreline and intertidal zone including fish traps and evidence for oyster beds. Other coastal features including possible landing stages.
- Wrecks and their cargoes at the inter-tidal zone and in areas of reclaimed land as illustrated by the 9th century Graveney Boat.
- 3.6 The subsequent archaeological investigations identified no significant archaeological remains. Finds of burnt flint and a residual undiagnostic worked flint were recovered from the plough soil during the watching brief on the geotechnical pits (Wessex Archaeology 2008a; 2008b). Modern drainage ditches and a seawall bank were recorded during the strip, map and sampling works (Wessex Archaeology 2008c). This work and the geotechnical investigations (Geotechnical Engineering Limited 2006) also identified an alluvial deposit on the reclaimed marshland. Former field boundaries suggested by linear spreads of magnetic debris, and anomalies interpreted as geological or pedological features were recorded by the geophysical survey on Cleve Hill (Archaeological Surveys Ltd 2008).
- 3.7 Archaeological deposits were found from a number of periods across the Site during the archaeological evaluation by Pre-Construct Archaeology Ltd (Holden 2008). These included ditches, pits, and postholes containing Iron Age pottery in the north-eastern part of the Site.
- 3.8 Although there are no Listed Buildings within the Site, two pillboxes and a Royal Navy 'Starfish' decoy operation post were built during the Second World War on the Site. One of the pillboxes and the operation post were demolished in 2009 as part of the LAL works at Cleve Hill following Level 4 building recording by Pre-Construct Archaeology Ltd (Thompson and O'Gorman 2009). The site of Cleve Marsh to the north of the Site, was used from March 1941 as the location for a 'Starfish' Decoy site designed to divert enemy bombers from attacking the Royal Naval Dockyard at Sheerness. The decoy site was designed to look like Sheerness at night by the use of controlled fires and lighting effects that were controlled from the semi-sunken Operation Post.

4 AIMS AND OBJECTIVES

- 4.1 The objective of the archaeological mitigation as set out in the Specification (Kent County Council 2009) was to identify, to excavate, to record and to analyse any archaeological remains that would be disturbed by the proposed development. The objective was to replace the physical archaeological remains with a detailed record and a better understanding of the past activities that have taken place on the site, thereby contributing to an increased knowledge of Kent's past and providing a resource for future research and education.
- 4.2 The aims of the targeted archaeological watching brief were to seek the following:
 - to establish a broad phased plan of the archaeology revealed during the stripping of the site;
 - to provide a refined chronology of the archaeological phasing;
 - to investigate the function of any structural remains and the activities taking place within and close to the site.
- 4.3 The aim of the archaeological investigation was also to seek to understand the context of the findings in relationship to the wider settlement pattern, landscape, economy and environment.
- 4.4 Therefore the objectives of the archaeological investigation were (not exclusively):
 - to understand the character, form, function and date of past activities on the site;
 - to investigate the context of the activities present within the wider landscape;
 - to include analysis of the spatial organisation of activities on the site through examination of the distribution of artefactual and environmental assemblages;
 - to place the activities/remains in the wider archaeological framework;
 - to contribute to an understanding of the environmental history of the Graveney area; and
 - to contribute to the objectives of the South-East Region Research Framework.
 - To agree and formulate more specific aims and objectives, if necessary, following stripping and as excavation progresses.
- 4.5 In particular the following aims were to be addressed:
 - to understand the nature of Iron Age activity on the Site both through the investigation of surviving features and analysis of the spread of activity evidenced by residual material found in later features;
 - to clarify the character, nature, date and, if possible, the extent of any archaeological remains associated with the medieval utilisation Cleve Hill and Cleve Marshes; and
 - to determine if there are any buried archaeological remains associated with the two World War II period pillboxes or military Royal Navy 'Starfish' decoy operation post which are present on the site.

5 ARCHAEOLOGICAL WATCHING BRIEF DURING UNEXPLODED ORDNANCE LOCATION AND REMOVAL

5.1 Aims and Objectives

5.1.1 The objective of the targeted archaeological watching brief was to provide a record of any archaeological finds and features exposed during the excavation of target holes to locate and remove unexploded ordnance from the Site.

5.2 Method

- 5.2.1 BACTEC International Ltd, a company which specialises in the disposal unexploded ordnance (UXO), identified where metal finds, potentially UXOs, were located across the Site from a magnetometer survey (Figure 2).
- 5.2.2 Target holes were excavated across the Site in the areas identified as having potential for UXO by BACTEC using a mechanical excavator fitted with a flat bladed bucket. The excavations were monitored by an archaeologist. The holes were excavated in spits of no more than 100mm deep and were taken down to the level at which UXO or other metal finds were found. Site staff from BACTEC regularly scanned machine-excavated deposits and the exposed surfaces using a metal detector. Upon the location of UXO all work ceased until it had been removed by a qualified bomb disposal technician. The UXO was stored by BACTEC for no more than 24 hours and then destroyed by them.

5.3 Results

- 5.3.1 Observation of the target holes for the location and removal of UXO showed that topsoil (1) overlay a silty clay subsoil (2), which in turn overlay natural London Clay over the majority (central and eastern parts) of the Site. At the western end of the Site, topsoil (1) overlay 20th century made ground (3), which in turn overlay natural London Clay. Only one undated feature (5), a patch of burnt natural London Clay, was found in the northern part of the Site (**Figure 2**).
- 5.3.2 Some 20 items of unexploded ordnance were found across the Site by BACTEC. These comprised 19 Second World War 20mm shells with explosive tips and the tailfin of an expended British Second World War 9 inch mortar. The headstamps of the 20mm shells showed that they were German. They had presumably been fired from German fighter aircraft, such as the Messerschmitt 109 or the Focke Wulf 190; the pilots being successfully fooled by the Cleve Marsh decoy, believing that they were firing on Sheerness (see Section 3.9).
- 5.3.3 The Royal Navy decoy site was kept so secret that at one time during the Second World War it came under mortar attack from the British army. Percy R Payne, who joined the Royal Navy in 1927 and was put in charge of operating the 'Starfish' Decoy site at Cleve Marsh, describing his time at Cleve Hill during the Second World War wrote "As time passed by, we got used to the

routine hazards of the job, but we were quite unprepared for an attack by our own side! We were out fixing cables when we suddenly came under Mortar attack. We scrambled back into the Operation Post and during a lull managed to attract the army's attention by firing a few short bursts on the Bren gun. We were unscathed but the cables were badly mauled" (Crowdy 1990). The British 9 inch mortar may have come from this attack.

6 ARCHAEOLOGICAL WATCHING BRIEF DURING EXCAVATION OF A TRENCH FOR PILE CAPS

6.1 Aims and Objectives

6.1.1 The objective of the targeted archaeological watching brief was to provide a record of any archaeological finds and features exposed during the excavation of a trench for pile caps.

6.2 Method

6.2.1 A trench for pile caps was excavated in the north-western part of the Site (**Figure 3**; **Plate 1**). The piles were required in order to stabilise a bank in that part of the Site. The trench was *c*.6m wide, *c*.100m long and between 0.2m and 0.3m deep. The sub-soil was left *in situ*, thus sealing any archaeological features. The trench was excavated using a small machine with a flat bladed 1.8m wide bucket. Only one machine was used to excavate the trench. Machine excavation was taken down in spits of no more than 100mm thickness to the level required for the capping beam. The excavations were monitored by an archaeologist. Machine-excavated deposits and the exposed surface were scanned for artefacts. Exposed surfaces and excavated spoil were regularly scanned with a metal detector.

6.3 Results

6.3.1 The excavation of the piling trench showed a sequence of topsoil (6) over silty clay subsoil (7). The subsoil was observed in the base of the trench and was not excavated. No archaeological features or deposits were observed since they would have been sealed by the subsoil.

7 ARCHAEOLOGICAL WATCHING BRIEF DURING GROUNDWORKS

7.1 Aims and Objectives

7.1.1 The objective of the targeted archaeological watching brief was to provide a record of any archaeological finds and features exposed during the removal of topsoil from across the Site and the reduction of Cleve Hill to create a level platform for the construction of the substation buildings.

7.2 Method

- 7.2.1 Topsoil was stripped from across most of the Site. In the area marked 'Method 1' on Figure 4 stripping was undertaken using a tracked 360° mechanical excavator fitted with a wide (minimum 1.8m) toothless ditching bucket (Plate 2). The evaluation had shown that in this area topsoil overlay silty clay which in turn overlay silty clay and gravel over London Clay (Holden 2008). This area was observed and recorded by an archaeologist. The exposed surface of the subsoil was metal detected and inspected for archaeological finds. In the area marked 'Method 2' on Figure 4, stripping was undertaken using a tracked dozer. This area was also observed by an archaeologist but the deposits were difficult to interpret because the exposed surface had been tracked over by the machine. Again the exposed surface was metal detected and inspected for archaeological finds.
- 7.2.2 Following the topsoil strip, a platform was cut into the existing hill for the new substation (shown as 'Excavated Area' on Figure 5). Machine excavation was undertaken using a tracked 360° mechanical excavator fitted with a wide (minimum 1.8m) toothless ditching bucket under archaeological supervision. Machine excavation was carried out in spits of no more than 100mm to the level of the natural London Clay. Machine-excavated deposits and the exposed surface were regularly scanned for artefacts. They were also regularly scanned with a metal detector. Excavation continued below the level of the natural London Clay to the required level but this was not observed by an archaeologist.

7.3 Results

- 7.3.1 In the Method 1 area (**Figure 4**), topsoil (8) overlay a silty clay subsoil (9). This left any archaeological features that may have been present undisturbed beneath the subsoil and therefore no archaeological features were observed. Following topsoil stripping, no further excavation took place in this area, which was used to stockpile topsoil and was later cleared of the stockpiles and then re-laid with topsoil.
- 7.3.2 Finds recovered from the topsoil during the stripping of the whole Site included an 18th century crotal bell, probably from a horse harness (identified by Marit Gaimster); two large fragments of brick, one 17th century and the other Roman, *c*.70-130 AD (identified by Kevin Haywood) and several sherds of pottery. The latter covered all periods from Roman to 1800 AD; although the

majority were medieval in date and were from the Tyler Hill potteries (c.1225-1350 AD), near Canterbury (identified by Christopher Jarrett). Many of these finds came from the western part of the Site from redeposited topsoil since it sealed 20th century made ground in this area

7.3.3 Excavation in the western part of the Site revealed a thick deposit of redeposited clay made ground (10) underlying the topsoil. Large parts of a tractor, oil cans, barbed wire and lumps of concrete were found in the made ground, which was thought to date to the 1960s. It was probably the result of modern-landforming, perhaps associated with a landslip-event shown on the British Geological Survey map (see Section 2.3.2). The made ground overlay London Clay (11). The surface of which was recorded at its lowest point, in the northern part of the Site, at 0.82m AOD and at its highest point, in the south-western part of the Site, at 13.47m AOD. No archaeological features were observed during this phase of the work.

8 CONCLUSION

- 8.1 Although archaeological features were recorded during the 2008 evaluation, none were observed during the watching brief on the same area. In the evaluation the features were found in the north-eastern part of the Site and were sealed by subsoil which was not removed during the watching brief in this part of the site. Only the topsoil was stripped in this part of the Site leaving any archaeological features or deposits buried under the subsoil.
- 8.2 Finds recovered from the topsoil during the topsoil stripping included Roman pottery and brick, medieval pottery, a 17th century brick fragment and an 18th century crotal bell. Many of these finds came from re-deposited topsoil since it sealed 20th century made ground in the north-western part of the Site.
- 8.3 The most interesting finds from the Site were those recovered by BACTEC during the watching brief on their excavation of target holes to locate and remove unexploded ordnance from the Site. These comprised 19 Second World War German 20mm shells and the tailfin of an expended British Second World War 9 inch mortar. The German shells had presumably been fired from German fighter planes; the pilots being successfully fooled by the Cleve Marsh decoy, believing that they were firing on Sheerness. The Royal Navy decoy site was kept so secret that at one time during the Second World War it came under mortar attack from the British army, which may explain the presence of the expended British 9 inch mortar.
- 8.4 No archaeological features or deposits were observed during the watching brief on the excavation of the pile trench since this trench was only 0.2m to 0.3m deep and the base of the trench only cut into subsoil. Any archaeological features would have been sealed by the subsoil. No archaeological features were observed during the excavation of Cleve Hill to create a level platform for the substation buildings.

9 BIBLIOGRAPHY

Archaeological Surveys Ltd, 2008, Geophysical Survey Report, London Array Onshore Works, Cleve Hill, Graveney, Kent, Magnetic Susceptibility and Magnetometer Survey, Client report 231.

British Geological Survey, Sheet 273

- Geotechnical Engineering Limited, 2006, Cleve Hill 400/220/132KV Substation, Proposed Substation, Ground Investigations, report 17992/A
- Hawkins, H. 2009a Method Statement for an Archaeological Watching Brief at London Array Offshore Wind Farm: Onshore Works, Cleve Hill, Graveney, Kent Archaeological Watching Brief on UXO Exploration Pre-Construct Archaeology Ltd unpublished method statement May 2009
- Hawkins, H. 2009b Method Statement for a Targeted Archaeological Watching Brief at London Array Offshore Wind Farm: Onshore Works, Cleve Hill, Graveney, Kent Pre-Construct Archaeology Ltd unpublished method statement June 2009
- Hawkins, H. 2009c Method Statement for a Targeted Archaeological Watching Brief at London Array Offshore Wind Farm: Onshore Works, Cleve Hill, Graveney, Kent-Ground Stablisation Enabling Works for a Pile Trench Pre-Construct Archaeology Itd unpublished method statement July 2009
- Holden, S. 2008 An Archaeological Evaluation at Cleve Hill, Graveney, Kent Pre-Construct Archaeology Ltd unpublished client report
- Kent County Council 2009 Specification for archaeological investigations on the site of the proposed London Array onshore substation, Cleve Hill, Graveney, Kent. Unpublished specification
- Thompson, G and O'Gorman, T 2009 Building Recording of Second World War Pill Box and Royal Navy 'Starfish' Decoy Operations Post, Cleve Hill, Graveney, Kent Pre-Construct Archaeology Ltd unpublished report

RPS, 2005, Environmental Statement Volume 2: Onshore Works, London Array Limited.

RPS, 2008 London Array Offshore Wind Farm: Onshore Works, Cleve Hill, Graveney, Kent: Written Scheme of Investigation for Archaeological Field Evaluation and Further Archaeological Investigation / Recording.

Wessex Archaeology 2008a. London Array Grid Connection, Cleve Hill, Graveney, Kent. Watching Brief on Geotechnical Test Pits. Unpublished client report ref 67610.01

Wessex Archaeology 2008b London Array Grid Connection, Cleve Hill, Graveney, Kent. Archaeological Watching Brief Report on Geotechnical Investigation Works Unpublished client report ref: 67612.03

Wessex Archaeology 2008c London Array Grid Connection, Cleve Hill, Graveney, Kent. Report on Archaeological Mitigation Works-Strip, Map and Sampling Unpublished client report ref: 67611.02

10 ACKNOWLEDGEMENTS

- 10.1 Pre-Construct Archaeology Ltd is grateful to RPS Planning and Development for commissioning the watching brief on behalf of London Array Ltd. The help and assistance of Martin Connell and Mick Rawlings of RPS Planning and Development and Phillip Tarren of London Array Ltd is gratefully acknowledged. Thanks are also due to Ian Lawrence and Richard White of Bactec for their help on site and for sharing their knowledge the UXO. The collaborative role of Ben Found, Archaeological Officer at Kent County Council, is also acknowledged.
- 10.2 The project was managed for Pre-Construct Archaeology Ltd by Helen Hawkins and Charlotte Matthews. Guy Seddon and Alexis Haslam carried out the watching brief. Identification of small finds, brick and pottery was by Marit Gaimster, Kevin Haywood and Christopher Jarrett respectively. Guy Thompson provided background historical information on the Second World War activities at Cleve Hill. Guy Seddon compiled this report and Jennifer Simonson prepared the figures.

APPENDIX 1- CONTEXT DESCRIPTIONS

Site Code	Contaxt No	Туро	Description
KCIIG 09	I	LATEN	TOPSOIL
KCHG O9	2	LAYER	SUBSOIL
KCHG O9	3	LAYER	MADE GROUND
KCHG O9	4	LAYER	LONDON CLAY
KCHG O9	5	LAYER	BURNT GROUND
KCHG O9	6	LAYER	TOPSOIL
KCHG O9	7	LAYER	SILTY CLAY SUBSOIL
KCHG O9	8	LAYER	TOPSOIL
KCHG O9	9	LAYER	SILTY CLAY SUBSOIL
KCHG O9	10	LAYER	MADE GROUND
KCHG O9	11	LAYER	LONDON CLAY

APPENDIX 2: MATRIX

KCHG 09



APPENDIX 3: OASIS FORM

OASIS ID: preconst1-65733

Project details

Project name	An Archaeological Watching Brief at Cleve Hill, Kent
Short description of the project	Pre-Construct Archaeology Ltd was commissioned by RPS Planning and Development on behalf of London Array Ltd to undertake an archaeological watching brief on land at Cleve Hill, Graveney, Kent, centred on OS TR 05201 63998. This work was carried out as a condition of planning permission for a new electrical substation associated with a new offshore wind farm. The watching brief was carried out in 2009, during the removal unexploded ordnance (UXO); topsoil stripping; the reduction of Cleve Hill for the substation and the excavation of a pile trench. Although Iron Age features were recorded during an earlier evaluation, none were observed during the watching brief. This was because the subsoil which sealed the features was not removed from the area of archaeological interest. Roman and medieval pottery, and an 18th century crotal bell were recovered from the topsoil, although this overlay 20th century made ground in part of the site. The tailfin of a British mortar and 19 German shells, all Second World War, were recovered during the removal of UXO. The site of Cleve Marsh was used as the location for a 'Starfish' Decoy site designed to divert enemy bombers from attacking the Royal Naval Dockyard at Sheerness. The decoy site was designed to look like Sheerness at night; the German shells indicate its success. The Royal Navy decoy site was kept so secret that at one time it came under mortar attack from the British army, which may explain the presence of the British mortar.
Project dates	Start: 20-06-2009 End: 20-09-2009
Previous/future work	Yes / Yes
Any associated project reference codes	KCHG09 - Sitecode
Type of project	Recording project
Site status	None
Current Land use	Cultivated Land 1 - Minimal cultivation
Monument type	NONE None

Significant Finds	CROTAL BELL Post Medieval
Investigation type	'Watching Brief'
Prompt	Planning condition
Project location	

Country	England
Site location	KENT SWALE GRAVENEY WITH GOODNESTONE Cleve Hill
Postcode	ME13 9**
Site coordinates	TR 0518 6394 51.3368740495 0.946012995340 51 20 12 N 000 56 45 E Point
Lat/Long Datum	Unknown
Height OD / Depth	Min: 2.00m Max: 17.00m

Project creators

Name of Organisation	Pre-Construct Archaeology Ltd
Project brief originator	Kent County Council Heritage Conservation Group
Project design originator	Pre-Construct Archaeology Ltd
Project director/manager	Charlotte Matthews
Project supervisor	Guy Seddon
Type of sponsor/funding body	Development Corporation
Name of sponsor/funding body	London Array Ltd
Project archives	
Physical Archive	No

Physical Archive	NO
Exists?	
Digital Archive	Local museum

recipient	
Digital Archive ID	KCHG09
Digital Contents	'none'
Digital Media available	'Images raster / digital photography','Text'
Paper Archive recipient	Local Museum
Paper Archive ID	KCHG09
Paper Contents	'none'
Paper Media available	'Report','Unpublished Text'
Project	
bibliography 1	Grav literature (uppublished decument/manuscript)
Publication type	
Title	An Archaeological Watching Brief At Cleve Hill, Graveney, Kent
Author(s)/Editor(s)	Seddon, G
Date	2010
Issuer or publisher	Pre-Construct Archaeology Ltd
Place of issue or publication	London
Description	A4 document
Entered by	Archivist (archive@pre-construct.com)
Entered on	9 August 2010



© Crown copyright 2007. All rights reserved. License number 36110309

© Pre-Construct Archaeology Ltd 2010

Figure 1 Site Location 1:25,000 at A4

Figure 2 Metal finds identified by BACTEC from magnetometer survey 1:5000 at A4

Reproduced from drawings supplied by BACTEC International Ltd. (June 2009) @ Pre-Construct Archaeology Ltd 2010



۰. ۲



z 🗲 🔶



Figure 3 Piling Trench Location 1:5,000 at A4



z ◀ 🔶



Figure 4 Area of Topsoil Stripping 1:5,000 at A4



PLATES



Plate 1: Excavation of the trench for pile caps



Plate 2: Topsoil stripping

PCA

PRE - CONSTRUCT ARCHAEOLOGY LIMITED

UNIT 54 BROCKLEY CROSS BUSINESS CENTRE 96 ENDWELL ROAD BROCKLEY LONDON SE4 2PD TEL: 0207 732 3925 0207 639 9091 FAX: 0207 639 9588 EMAIL: info@pre-construct.com

PRE-CONSTRUCT ARCHAEOLOGY LIMITED (NORTHERN OFFICE) UNIT 19A TURSDALE BUSINESS PARK DURHAM DH6 5PG TEL: 0191 377 1111 FAX: 0191 377 0101 EMAIL: info.north@pre-construct.com

