

LONDON GATEWAY CLEARANCE PROGRAMME

DIVING FIRST TRANCHE

FIELD REPORT 66894.5029

London
Ref: 5029

1. EXISTING DATA

Introduction

Site 5029 is believed to be the wreck or part of the wreck of the *London*, a Second Rate English warship lost in 1665 as a result of an internal explosion.

Investigations to Date

The following investigations and salvage activities have been undertaken on the site:

1979	Site reported as an unusual looking feature (23/11/1979);
1980	Site salvaged by Yantlet, divers recovered two cannons (03/09/1980);
1981	Site swept, no further salvage work is anticipated on the wreck (07/11/1981);
1985	Wreck located at 51°29'43"N 00° 44'29.5"E (OGB) swept clear to 8.2 metres (07/10/1985);
1985	Site identified during search for the <i>London</i> at 51°29'44"N 00°44'31"E (OGB). Site is located in a general depth of 12 metres, but has a large iron content for a 17 th century sailing vessel (23/10/1985);
1990	Site located at 51°29'42.1"N 00°44'29.5"E (OGB using microfix) in a least depth of 8.7m in a general depth of 9.5 - 11 metres with a scour of 12.3 metres (09/04/1990);
2002	Site identified as important during London Gateway archaeological assessment (14/11/2002);
2004	Site located at 51°29.753' N 00°44.405' E (WGD using DGPS);
2004	Site surveyed by PLA with multibeam and echo sounder, the wreck was located in three distinct sections of wreckage 30m south of charted position. The southern section was located at NGR 590284 E 180956 N (07/10/2004);
2005	Site dived by the PLA and Nigel Nayling of UWL (29/01/2005); the wreck was located and timber samples were recovered for dating;
2005	Site located at 51°29.732' N 00°44.391'E (WGD using DGPS). Wreck lies in a least depth of 9.83 metres in a general depth of 10.9 metres with a scour of 0.1 metres. The sites is 47.1 metres long, width 28.4 metres and lies in a ne/sw orientation in a broken up state (23/08/2005);
2006	PLA site investigation using Reson 8125 multibeam system (09/03/2006);
2007	PLA site investigation using sidescan sonar (EG&G 272 dual frequency towfish), with WA in attendance (7-8/8/2007).

Informal reports suggest that five guns have recently been salvaged from the seabed in the vicinity of the site. Three of these are rumoured to have been removed from the nearby 'King' site and two from the *London* site. All are reported to be bronze and are therefore very likely to have been smooth bore muzzle loaders. At least one is rumoured to have had an English Commonwealth crest.

WA has seen a photograph of one of the guns, taken shortly after its recovery. It is clearly a bronze smooth bore muzzle loading gun, but the photograph is not scaled and no crest or other markings or dolphins can be seen. The presence of barnacles on most of the visible surfaces suggests that it was only part buried before salvage. Comparison between the photograph and the measurements taken by the PLA/Nigel Nayling of a bronze gun on the King site in 2005 suggest that this could be the same or a very similar gun. That gun was identified as a saker or demi-culverin in 2005, although the latter is perhaps more likely.

Site Description

Position (UTM zone 31) obtained from 2006 multibeam data: 343112.194 E,
5707357.706 N

Location (derived from 2006 multibeam data): The site is located 300 metres northeast of Sea Reach Buoy No 4, 139 metres outside the northern edge of the dredged channel (**Figure 1**).

Bed Depth: 11.2 metres

Minimum Target Depth: 10.27 metres

Extent: 30 x 20 x 1.1 metres

UKHO Status – LIVE

2. DIVE OBJECTIVES

The objective of the diving operation was to ascertain the impact of the salvage operations that had taken place on the site.

3. DIVE DETAILS

Date and time: 11th April 2008, 16.56

Bottom time: 42 minutes

Maximum depth: 17m

Underwater visibility: Nil (inspection by touch only)

Date and time: 14th April 2008, 14.07

Bottom time: 88 minutes

Maximum depth: 13m

Underwater visibility: Nil (inspection by touch only)

Total bottom time: 130 minutes

4. RESULTS

On the first dive, the diver encountered a large portion of coherent timber structure, upstanding between 0.5m and 1m. The timbers were eroded and it was not possible to identify the types of timber in question. The diver tracked this timber structure around in a curving shape to a point where the edge continued in two different directions, as if breaking into a Y-shape for a short distance until it disappeared into

the riverbed. At this point there was a large irregular shaped concretion attached to some of the timber. A pottery sherd was recovered close by this concretion.

The riverbed at this point was very firm, heavy clay with few inclusions.

After swinging across several metres of featureless riverbed, the diver encountered another portion of timber structure with a recognisable edge. Again, these timbers were too eroded to identify but the diver was able to follow the edge for some distance until it became less coherent. The diver encountered several concretions adhering to the timber and one small loose concretion, which was recovered to the surface.

On the second dive, the diver made bottom on an area of featureless riverbed off the site. After encountering some loose eroded timber, a fragment of a plank and some small, loose concretions the diver came across a large portion of coherent timber structure. This line of structure was buried in the riverbed on its northern side and exposed to a width of approximately 1 metre. It was scoured on its southern side and exposed within the area of scour by between 0.2m and 1m

The diver tracked along this edge of structure for approximately 6 metres from east to west. The line of structure then curved around to the north on its western side, forming a rough L-shape. At this point the diver encountered four adjacent square sectioned timbers measuring 0.3m by 0.3m, forming a line orientated roughly north-south. These were interpreted as eroded frames. Adjacent to this the edge continued as an unidentifiable mass of timber and concretion for a short distance before the diver encountered a line of five parallel planks on top of the structure. The planks lay at a 90 degree angle to the line of structure, four of them lay side to side, with a gap of 0.1m between the fourth and fifth planks. All planks measured approximately 0.25m in width, 0.1m in thickness and were exposed to a length of 0.5m. Shortly after this point the edge became confused and disappeared into the riverbed. At this point a distance and bearing were taken along the search line; the diver was 26 metres south-southwest of the dive vessel's anchor.

A short distance north of where the previous edge of structure had disappeared into the riverbed, the diver encountered a line of timber structure which was upstanding approximately 0.2m from the riverbed. This line of timber structure ran for approximately 4 metres from south to north and consisted of very eroded and unidentifiable timbers. The diver probed the riverbed on either side of this line of structure and encountered hard resistance at 0.2m. The diver recovered several small concretions at this location. Modern debris and fishing net were also noticed, similar to those observed on the northernmost section of the wreck by the PLA and Nigel Nayling in 2005.

The diver returned to the dive vessel's anchor to secure some large concretions which had been collected and then moved 20 metres south-east of this position before encountering a large area of eroded timber approximately 3 metres by 3 metres, forming a flat platform upstanding less than 0.5m. While these timbers were too eroded to be positively identified, it is likely that they represent an area of planking.

After investigating this area, the diver was recovered to the surface.

5. INTERPRETATION

Although modern debris was observed by the PLA and Nigel Nayling on the northernmost section of the wreck in 2005, the modern debris observed by the diver in April 2008 does not necessarily indicate he was in the same location. The shape of the timber structure encountered during the second dive appears more consistent with the southernmost section of the wreck as depicted on the multibeam; that of a line of timber running from east to west before curving around to the north.

The finds recovered from the site have not provided much insight into the character of the wreck. The pottery sherd recovered during the first dive has been identified as a turned wall fragment of a pottery vessel of sandy material. It is most likely to have been manufactured outside of Britain and could possibly be part of an olive jar. The pottery can be said to be post-medieval in date; while this date does widely conform to the date of the *London* the pottery sherd cannot be more tightly dated than that.

It is possible that the 'King' site may in fact be part of the wreck of the *London*. The following evidence suggests that this theory is plausible:

- The *London* is known to have broken up and the sites are close together. The *London* was lost because of an explosion and Samuel Pepys describes it as "breaking all in pieces". The 'King' site is only 400m west of the *London* and it is certainly possible that substantial sections of the *London* could have been moved some distance away from the site of the sinking, either as a direct result of the explosion or as the wreck broke up. The possibility that the 'King' site could be the site of the sinking and the *London* site an outlier should also not be discounted.
- Both sites have produced similar dating evidence. A ship timber from the *London* site has produced a felling date of post-AD 1639. A gun was reported to have been recovered from the 'King' site in 1962. This gun, a French piece reportedly dating from 1636, is currently in the Royal Armouries.
- The identification of the 'King' does not correspond to any recorded loss.

If the 'King' site is part of the wreck of the *London*, then the geophysical evidence suggests that it is possible that it is the main part of the wreck.

LONDON GATEWAY CLEARANCE PROGRAMME

DIVING FIRST TRANCHE

**FIELD REPORT
66894.5046**

April 2008

Unknown (Wreck NW of Sea Reach 1)
Ref: 5046

1. INTRODUCTION

1.1. BACKGROUND

Site 5046 was assessed as part of the Phase I Diving Investigation carried out in November 2007 by Wessex Archaeology. The site was dived once with a dive time of 30 minutes. The dive report for the operation was submitted to English Heritage.

The diver identified both wooden structural elements and ferrous plate as well as an assortment of concreted material. The conclusion was that the site was a shipwreck of unknown date, character and extent (Wessex Archaeology Dive Report 66892.5046).

A meeting was held between the Port of London Authority, DP World and English Heritage (with Wessex Archaeology in attendance) on the 15th January to discuss the archaeological mitigation for the London Gateway scheme in light of the Phase I Diving Investigation. As part of the meeting Site 5046 was discussed and it was agreed that further diving would be undertaken to establish the date and character of the wreck.

This report details the results of the further diving carried out in April 2008.

2. DIVE OBJECTIVES

The objective of the diving operation was to establish the character, nature and date of vessel to inform mitigation decisions.

3. DIVE DETAILS

Date and time: 12th April 2008,
Bottom time: 56 minutes
Maximum depth: 16m
Underwater visibility: Nil (inspection by touch only)

Date and time: 12th April 2008, 18.09
Bottom time: 21 minutes
Maximum depth: 21m
Underwater visibility: Nil (inspection by touch only)

Cumulative bottom time: 77 minutes

4. EVIDENCE

Dive 1

On the first of the two dives conducted in April 2008 the diver made bottom and encountered a confused area of concretions and timbers upstanding up to 500mm. The diver was directed to the northwest across confused seabed with upstanding timbers and concretions. No identifiable structure was identified in this location, though the diver found a glass bottle and recovered it to the surface.

The diver then encountered a distinct north facing edge of structure which appeared to lie in the same location as an upstanding linear feature depicted in the geophysical data (**Figure 1**). The diver tracked along this edge to the east. The line of structure tracked by the diver was approximately 13 metres long, and became indistinct and possibly buried at each end. It was upstanding by approximately 0-300mm metres due to scouring on the north side; on the southern side the seabed rose slightly before sloping gently to the south. No evidence of the south facing edge that was visible in the 2005 multibeam data was located by the diver.

The north facing edge may possibly represent some vessel structure, with the outboard side to the north and the inboard side to the south, though it is difficult to state this with any degree of certainty following a brief examination. It consisted of some very eroded timbers emerging from the seabed, some of which had concreted fittings attached to them. The timbers were orientated north-south and projected from the seabed at varying angles. The diver encountered another glass bottle in this area and recovered it to the surface. It is possible that timbers situated just south of this edge represented very eroded frames, though their eroded condition rendered positive identification difficult. Part of this line of structure comprised substantial rectangular (c. 75mm deep, length 2m+, width unknown) horizontal timbers. The diver was unable to determine how deeply buried the structure was due to the resistance of seabed to digging.

After tracking along the line of structure, the diver moved southwest from the western end of the edge. Here the seabed rose slightly and then sloped away to the south. At the southward limit of the diver's track they came across confused area of concretion, eroded timbers, and gravel and cobbles. There was insufficient time for the diver to examine this closely but he observed a long thin walled tube, approximately 3 metres long and 100mm in diameter. This appeared to be unconcreted metal but the end of the pipe was slightly flexible to pressure when squeezed. It was not possible to identify the material this object was made of.

Dive 2

The second of the two dives was cut short due to operational difficulties.

On this dive the diver made bottom in the centre of the wreck to the south of the edge of structure identified in the previous dive (**Figure 2**) and was directed northwards. The diver recovered a concretion, thought to be a bolt and a fragment of brick from the seabed. The diver reached the edge of structure and proceeded along it for approximately 2 metres before the dive was cut short and the diver was recovered to the surface.

As the dive vessel prepared to leave the site its anchor snagged a ferrous concreted object and brought it to the surface. This was a structural element of a vessel and was identified as being a metal frame or rider.

5. INTERPRETATION

While the dive conducted in November of 2007 identified elements which could be interpreted as ship structure, the general impression of the part of the site investigated at this

time was that of a mass of concretion with associated timber and outlying concretions, rather than a coherent section of ship structure.

The subsequent dives conducted in April of 2008 positively identified a coherent edge of timber structure running roughly east-west and resulted in the recovery of an identifiable structural element of a vessel. It can therefore now be said with a reasonable degree of certainty that Site 5046 represents the remains of a vessel.

While the timbers on the seabed were too heavily eroded to positively identify their form and function, the quantity of timber encountered may suggest that they represent part of the hull of the vessel. The ferrous knee or rider suggests that Site 5046 may have been a timber-hulled vessel with iron or iron alloy structural reinforcements. Though less likely, the possibility that this is a metal-hulled vessel with timber deck planking cannot be ruled out without further intrusive investigation.

The two bottles retrieved from the site were dug out from the seabed on the site and are thought likely to be associated with the wreck. If these bottles are associated with the wreck it would suggest a post-World War II date for this site.

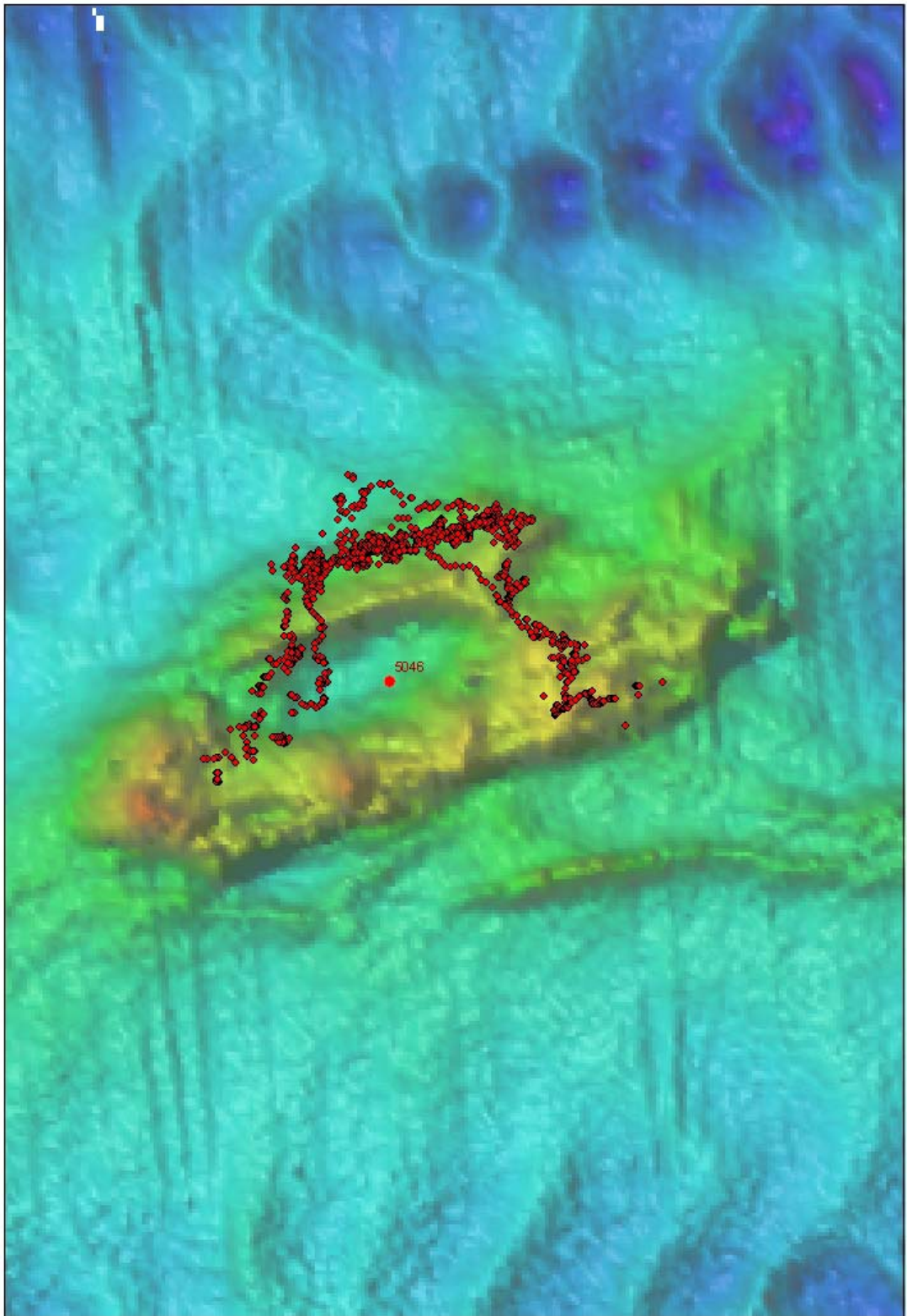
The bottle 5046-008 is a green glass bottle moulded with the lettering "Buchanans Black and White Whisky". Preliminary research indicates that Buchanan's Black and White whisky was produced by the company founded by James Buchanan in 1884. It was originally sold as House of Commons whisky and gained the nickname Black and White whisky due to its distinctive labelling; a nickname which was later adopted as the official brand name. Though not currently sold in the UK, the Black and White whisky brand still exists, therefore the date range for this bottle extends from the late 19th century up to the present day.

The bottle 5046-007 is a small brown glass short-necked beer bottle. The shoulder on either side of the bottle is stamped with the lettering "No Deposit No Return" and the base is stamped with the lettering "0.33L PLM L18". Preliminary research indicates that so-called "No Deposit No Return" beer bottles were common after World War II and as the labelling "0.33L" is presumed to indicate quantity, the labelling of a bottle with metric measurement units would conform to a date in the latter half of the 20th century.

Figure 1 shows the diver track from the April 2008 investigation illustrated by the red dots.

6. RECOMMENDATIONS

Based on the likely provenance of this vessel being to the second part of the twentieth Century no further archaeological work is recommended.



LONDON GATEWAY CLEARANCE PROGRAMME

DIVING FIRST TRANCHE

FIELD REPORT
66894.5051

April 2008

Unknown (Mid Blyth)
Ref: 5051

1. INTRODUCTION

1.1. BACKGROUND

Site 5051 was assessed as part of the Phase I Diving Investigation carried out in November 2007 by Wessex Archaeology. Two dives were carried out on the site with a dive time totalling 49 minutes and the associated dive report was submitted to English Heritage.

The dives identified timber structure protruding from the river bed that matched the features observed on the multibeam bathymetry data. The structure comprised frames and inner and outer planking. A small number of finds including slag and animal bone were recovered from the site but none produced any dating evidence. The conclusion was that the site was a shipwreck of unknown date (Wessex Archaeology Dive Report 66892.5051 2007).

A meeting was held between the Port of London Authority, DP World and English Heritage (with Wessex Archaeology in attendance) on the 15th January to discuss the archaeological mitigation for the London Gateway scheme in light of the Phase I Diving Investigation. As part of the meeting Site 5051 was discussed and it was agreed that further diving would be undertaken to establish the date and character of the wreck.

This report details the results of the further diving carried out in April 2008.

2. DIVE OBJECTIVES

The objective of the diving operation was to establish the character, nature and date of vessel to inform mitigation decisions.

3. DIVE DETAILS

Date and time: 11th April 2008, 14:07

Bottom time: 51 minutes

Maximum depth: 14m

Underwater visibility: Nil (inspection by touch only)

Cumulative total bottom time: 100 minutes

4. EVIDENCE

The diver undertook a search of the southern half of the site, covering an area of approximately 100m², both within and around the upstanding vessel-like feature shown in the multibeam bathymetry data. The search area is shown in **Figure 1**. The movement of the diver was tracked using a Sonardyne Scout USBL system. Underwater visibility was nil even

with artificial light and therefore the search and subsequent inspection of located features was by touch only.

Evidence of a linear wooden structure over 4m long was located within the site (**Figure 1**). This appeared to consist of small partially buried frame-like timbers set in a near vertical plane that appeared to be sandwiched within two layers of plank-like timbers. The spacing of the frames was approximately 0.5m. The sections of these timbers appeared to have similar dimensions to the frames identified in 2007. The exposed timber was highly eroded. The seabed where probed was highly resistant but relatively well preserved timber was felt immediately below the exposed eroded sections. A treenail was felt attached to one of the frames.

Timber structures consisting of frames and planks were located in positions that corresponded with both of the linear mounds identified on the multibeam bathymetry data.

Although the area searched included the southernmost end of the linear mounds, no evidence of stern or bow structures was recognised.

Numerous other small timber and concreted metal features were felt between the linear mounds. It was not established whether these were part of a coherent structure or more scattered wreckage. Three four sided possibly hollow closely spaced features were located that may have been containers of some kind. The material that they were made out of was not established, although the surfaces were very rough to touch.

A total of three finds were recovered from the search area:

Pottery Flagon

A pottery flagon was found partially buried within site close to the linear wooden structure noted above, and recovered by the diver for identification purposes. The dimensions of the bottle were: height to shoulder 225mm, overall height 320mm; diameter at base 170mm. Three stamps were identified on the neck on the neck. The manufacturers stamp identified the factory as Doulton and Watts Lambeth Pottery. The second stamp identified the owner as F. White of the Crown & Anchor Hotel, Woolwich. The third stamp was the single numeral '1' indicating that the volume of the bottle was one gallon

A very similar bottle is shown in the Doulton & Watts' price list of 1873 (DD/655/21, Hammersmith and Fulham Archives). This price list also shows very similar 'spirit bottles' cased in white wicker. John Doulton was the founder of the business that was subsequently to become Royal Doulton. Setting up in partnership with John Watts in 1815, their Lambeth pottery was opened in the 1820s. In 1854, following the retirement of John Watts the firm merged with a rival firm run by Doulton's son to become Doulton and Company. The manufacturer's stamp on this bottle was in use from the 1820s until 1854 when 'Doulton Lambeth' became the standard impressed mark (<http://www.thepotteries.org/mark/d/doulton.html>).

An F. White is listed in the 1855 Essex, Herts, Kent and Sussex Publican Directory as being the publican of the Crown & Anchor Hotel. In 1874 L & J Carter are listed as publicans in the Post Office Directory for that year, whereas the publican in 1834 is listed as Matilda Hanneford-Pigots. The likelihood is therefore that this bottle was manufactured between 1834 and 1854.

Plate

The plate was identified as refined white ware ironstone Montilla plate manufactured by Davenport, with a diameter of 215mm. It was located buried within the site adjacent to the linear wooden structure noted above. This Staffordshire plate is transfer printed in blue and white with the Montilla pattern. Ironstone was a high fired white pottery characterised by heavy weight for size and dense fabric. It became popular for every day use due to its robust nature. In addition to a printed mark on the reverse of the plate, it is also stamped with a typical incised Davenport mark, an anchor with the word 'Davenport' above. Two numerals on either side of the anchor shaft give the date of manufacture. The right hand mark is '2'. However the left hand mark is less clear. It appears to be '6', although the possibility that it is an '8' cannot be ruled out. Therefore the plate was probably but not certainly manufactured in 1862.

Brick

Fragment of yellow brick with dimensions: Partial length 170mm; width 100mm; thickness 60mm. It was partially buried within the site close to the linear wooden structure noted above. Although highly eroded, the brick is frogged. This indicates that the brick post-dates 1800, although the frog is not deep or obviously triangular, suggesting that it is not a very modern form.

5. INTERPRETATION

The investigations have confirmed the presence of coherent partially buried timber structures that correspond with linear structures evident in the geophysical data and which are probably the remains of a wooden hulled vessel.

Analysis of the geophysical evidence and the results of the tracked diver searches suggest that the surviving structure may be as much as 18m long by 4.5m wide. If this is representative of the original size of the vessel, then it is likely to have been a small vessel of less than 100 gross tons. However, although the southern limit of the upstanding remains appears to have been located, no bow or stern structure has been identified and considerable uncertainty exists as to how much of the breadth of the hull survives or how it lies. It is therefore not yet possible to be certain whether the full length or width of the vessel survives.

The finds suggest that a significant assemblage of artefacts could be associated with the site. The find of a pottery flagon associated with both Lambeth and Woolwich also indicates that the vessel is likely to have had a local connection. The nature of that connection is unknown as the bottle may have arrived on the vessel for a number of different reasons, either as cargo or as the possession of a crew member. The evidence is not yet strong enough to identify the type of vessel.

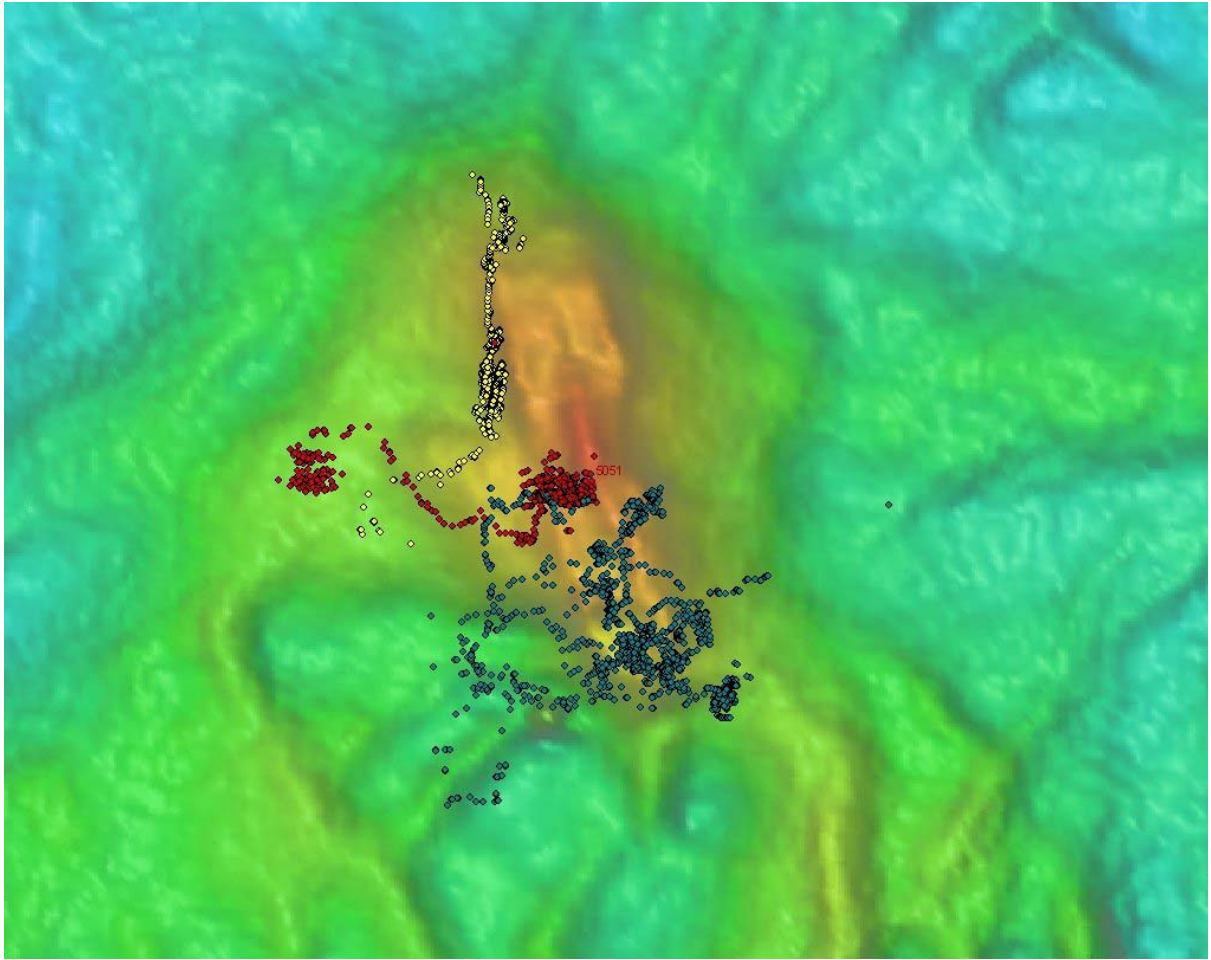
The wreck probably dates from the third quarter of the 19th century, with 1862 being the earliest possible loss date.

Figure 1 shows the diver track from the November diving investigation illustrated by the red and yellow dots and the April diver track is illustrated by the blue dots.

6. RECOMMENDATIONS

Based on the provenance of the this wreck to the latter part of the nineteenth century and the probability of the survival of structural elements of the vessel and small finds, we propose

that this site is subject to controlled clearance with in water archaeological observation and recording. A method statement will be submitted to English Heritage for discussion.



LONDON GATEWAY CLEARANCE PROGRAMME

DIVING FIRST TRANCHE

**FIELD REPORT
66894.5124**

April 2008

Unknown (Black Deep)
Ref: 5124

1. INTRODUCTION

1.1. BACKGROUND

Site 5124 was on the programme to be dived as part of the Phase I Diving Investigation carried out in November 2007 by Wessex Archaeology. However, because of the weather conditions no diving was carried out upon this site.

A meeting was held between the Port of London Authority, DP World and English Heritage (with Wessex Archaeology in attendance) on the 15th January to discuss the archaeological mitigation for the London Gateway scheme in light of the Phase I Diving Investigation. As part of the meeting Site 5124 was discussed and it was agreed that the initial planned diving for the Phase I work should be undertaken.

This report details the results of the further diving carried out in April 2008.

2. DIVE OBJECTIVES

The objective of the diving operation was to establish the character, nature and date of vessel to inform mitigation decisions.

3. DIVE DETAILS

Date and time: 13th April 2008, 12:06

Bottom time: 45 minutes

Maximum depth: 18m

Underwater visibility: <0.10m with artificial light (inspection by touch only)

Cumulative total bottom time: 75 minutes

4. EVIDENCE

The diver undertook a search of the NE and W sections. Underwater visibility was nil even with artificial light and therefore the search and subsequent inspection of located features was by touch only.

The NE section of the site was investigated, which is not shown on the figure. This comprised an incoherent scatter of partially buried and broken reinforced concrete beams of 0.2 x 0.2m section and 2-4m exposed length, and other construction debris, including a probable scaffolding pole. The SW section comprised similar material. No evidence of timber or of concretions not clearly associated with the concrete beams was located.

Finds recovered from the site included a fragment of concrete broken off from one of the beams and a piece of rebar attached through a small fragment of concrete.

Figure 1 shows the diver track of the diver in November illustrated by the yellow dots and the track of the April dive illustrated by the red dots.

5. INTERPRETATION

The sections appear to be dumps of reinforced concrete and other construction material, possibly originating from the demolition of an unidentified modern coastal structure. Both sections are very probably associated and the remains of the same structure.

No evidence of a wreck was located in the NE section.

6. RECOMMENDATIONS

It is recommended that no further archaeological work is carried on this site

