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Bamburgh Castle Beach Wreck



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Technical report

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Introduction

A rarely seen portion of an unknown wreck has been reported to Maritime Archaeology Sea Trust (MAST) by Steve Brown, a PADI Basic Archaeological Diver Instructor and local historian, within the intertidal zone of Bamburgh Castle Beach. After speaking to English Heritage, who had already been informed, it was decided that this was indeed an unrecorded site and sent a team to conduct a preliminary survey.

Methodology

The methodology adopted reflects best practice in carrying out archaeological field evaluations, as set out by the Institute for Archaeologists (IfA) Standards and Guidance for Archaeological Field Evaluation (IFA 2008).

A rapid preliminary survey was conducted making use of a spring low tide which allowed for approximately 3 hours of work. The preliminary survey, discussed below, noted all the key dimensions and visible features and took some 200 photographs of the site. The survey was conducted by three people, Kevin Stratford (MAST), Jessica Berry (MAST) and Steve Brown (local resident and interested party).

Site Position

The site position was recorded using a hand held Garmin 76Cx with an accuracy of +/- 3 metres.

Latitude	55 36.625N
Longitude	001 42.063W
WGS84	

The Site Environment

The site lies in the intertidal zone on Bamburgh Beach in Northumberland on the north east coast of England. The beach is made up of fine sand that is well compacted, potentially providing a good level of preservation. The site only appears at certain periods of the tide roughly 1 hour either side of low water slack. The site itself sits within its own scour which, along with the tidal conditions, means that it may never completely dry out.

Assessment of the Wreck

The site consists of the exposed remains of an unknown wooden sailing vessel 22.5m long by 5m wide. There is considerable evidence for buried material on site which could greatly increase the site dimensions. The orientation of the wreck from stern to the bow is approximately 80 degrees.

The site appears to be stern inshore and lying on its starboard side which is buried with only the eroded port side still showing. The site has several rare features for sites within this environment and even rarer within the UK archaeological records.

The remains of the wreck that were visible during the survey consist of the surviving port side of the vessel. It is likely that the starboard side of vessel still survives mostly intact buried in the sand. The survey of the wreck was undertaken on the exposed timber only.

The assessment below is broken down into specific features that are currently exposed.

Exposed Structure

Hull

The exposed remains on site consist of the remains of the port side of the vessel. The hull of the vessel (ceiling planking, frames - possible first futtocks - and outer hull planking) has eroded away. The surviving starboard side remains appear to consist of the hull from just below the turn of the bilge, the lower deck beams and the upper deck beams just inside the ship's hull. The construction of the hull appears to be of a carvel design using predominantly wooden treenails.

The hull structure dimensions recorded at the exposed bow section of the wreck are as follows:



Figure 1. Outer hull planking 11.5cm thick 16cm wide and length unknown



Figure 2. Ceiling planking 4cm thick 24cm wide and length unknown.



Figure 3. Frames (first futtock) 16cm moulded 11.5cm sided and length unknown.

The surviving structure from amidships to the stern consists of eroded frames (possibly first futtocks). The measurements for the frames at the stern and amidships are therefore estimated from the exposed timber and as such a sample of one from amidships and one from the stern section were recorded. There is no exposed planking from amidships along to the stern section of the wreck.

The exposed amidships frame is 14cm moulded 22cm sided and length unknown.

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The exposed stern section frame is 11cm moulded 18cm sided and length unknown.

Deck beams

Along with the hull structure several other structural remains were exposed. The starboard ends or closest surviving sections of the starboard ends of two layers of deck beams are protruding from the sand.

Lower deck beams

A total of seven lower deck beams are exposed. Their dimensions and features are recorded in order from bow to stern, (note number 4 was a cylindrical timber). The fastenings of this section appear to be using a mixture of wooden treenails and iron fastenings of some kind (possibly square nails). The one strange feature is that of the longitudinally aligned circular holes running through the lower deck beams (see image below).

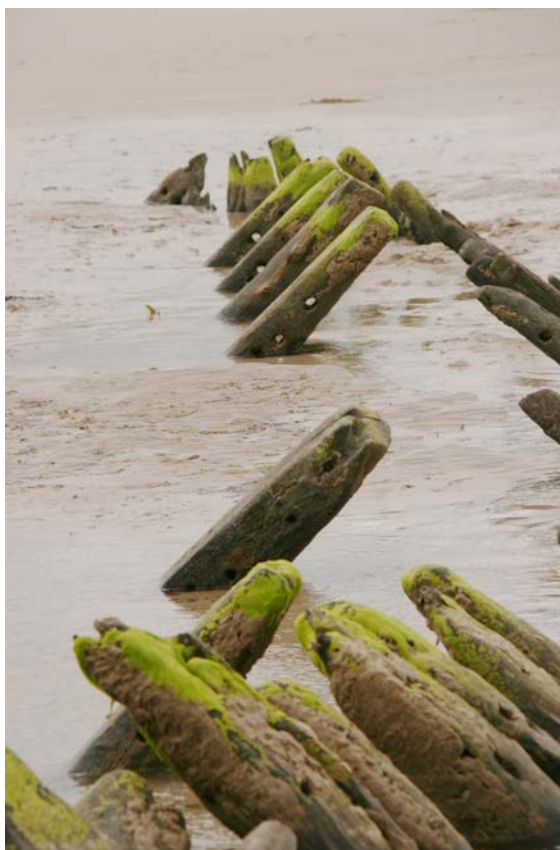


Figure 4. Image showing longitudinally aligned circular holes running through the lower deck beams

1. 18cm moulded 23cm sided length unknown
2. 17cm moulded 24cm sided length unknown
3. 19cm moulded 43cm sided length unknown
4. 17cm moulded 28.5cm sided length unknown
5. 19cm diameter length unknown. Two concreted iron fastenings on the forward face of the timber.

6. 13cm moulded, 37cm sided at starboard end, tapering down to 23cm at the buried end length unknown. One empty treenail hole with a diameter of 6cm is bored all the way through the timber. Along with the treenail is a concreted iron fastening on the stern face of the timber.
7. 15cm moulded 24cm sided length unknown. One square nail hole with possible remains of iron nail broken off inside survives on the stern face of the timber.

Main deck beams

A second layer of deck beams (main deck) are also exposed on the site. A total of 12 main deck beams are exposed to varying degrees on site. The most exposed located at the bow of the wreck (the first 4 main deck beams). A sample of the main deck beams were recorded. Due to time constraints from the encroaching tide, these were chosen from the most exposed section of the wreck, the bow.

The bow section's main deck beam sample was taken from the third and fourth timber within the bow section, the most exposed of these being 1.3m above the sand. The third main deck beam is 10cm moulded, 24cm sided length unknown. The fourth main deck beam is 18cm moulded, 20cm sided length unknown.

The amidships section contains the remains of four main deck beams two of which are exposed deck beam timbers along with the tips of two partially exposed main deck beams where the end of the exposed section lies flush with the sand.

The stern section contains a further four main deck beam timbers. The most exposed of these being 30cm above the sand. All of the exposed faces of the timber are heavily eroded making any dimensions measured an estimate. (See image below)



Figure 6. All of the exposed faces of the timber are heavily eroded making any dimensions measured an estimate.

Masts

Two of the rarer features that survive on the site include the broken stumps of one, possibly two masts. They have been broken off roughly 1-2m above the main deck beams which could suggest survival right down to the mast step, something very special for an intertidal site within the UK.

The mast in the bow lies approximately 4m aft from what could be the remains of the stem. It is cylindrical and has a circumference of 1.2m. Adjacent to the stern face of the forward mast a small squared off timber survives which is possibly a bollard used to tie off rigging ropes to. (See image below).



Figure 7. A small squared off timber survives which is possibly a bollard used to tie off rigging ropes

The cylindrical object in the stern lies approximately 16m aft of the possible stem. It has a circumference of 0.9m and has a hollowed core; this could be a product of erosion or more likely this may suggest that it is not another mast but could be something like a pump tube. It is not possible to ascertain this without further investigation. (See image below).



Figure 8. Possible pump tube or mast in the stern

Windlass

Within the exposed bow section of the wreck an exposed timber running from port to starboard above the main deck beams survives. The timber lies just aft of the exposed forward mast. The timber is cut with an octagonal cross section with square notches carved into the flattened faces. The diameter of the timber is 31cm and the exposed length is 1.1m. The square notches are between 10cm and 12cm square and penetrate through the width of the timber. A total of 10 notches are exposed making five complete holes running through the timber. The location and design of the timber would suggest that this is the remains of the starboard side of the windlass with the centre and port side possibly still in situ but buried. (See image below).



Figure 9. Likely remains of a windlass

Conclusion

The site at present appears to be relatively unstable as it is exposed to a level not seen for a number of years. As to be expected, deposition is greater in the western part of the site towards the shore and less to the eastern end towards the open ocean. It is exposed to all easterly winds.

The site appears to contain the exposed remains of the port side of a wooden sailing vessel lying on its starboard side with its stern inshore. The length of the exposed material is 22.5m and the width of the exposed material is 5m.

The survival and position of some of the features within the site would suggest that the buried structure could be mostly intact as the position of hull structure, deck beams, masts and even deck fittings are all as would be expected from a mostly intact buried vessel. Should the starboard side survive under the sand it would potentially offer an unparalleled opportunity to study a wreck with this level of survival within the intertidal zone, there being very few comparable examples currently discovered beyond the low water line within the UK. The exposed section of the wreck that appears to have been eroded consists of the hull structure of the starboard side of the wreck. The exposed deck beams suggest the possible survival of decks below the sand (possibly the entire port side) which would also be extremely rare within the UK.

The width of the vessel suggested from measuring from the mast, which runs along the centre line of a vessel, out to the edge of the outer hull planking then multiplying by two for the port side would suggest a beam of approximately 9m. A beam of this size would suggest that there could be

substantial burial of material under the current sand level, up to 5m depending on survival of the port side structure.

The survival of the lower parts of the mast from just above the main deck and possibly down to the mast step would also offer a rare opportunity to study these features within a wreck in the intertidal or fully submerged.

No small finds could be seen exposed on the site. However there is a small chance that some small finds may survive within the buried structure. Due to its position within the intertidal zone it is also likely that the wreck underwent some level of contemporary salvage as was and remains in places the norm in coastal communities of the UK. It is also possible that sections of the structure were salvaged for re-use.

The exact level of survival for both structural material along with small finds including personal possessions is difficult to ascertain for certain without further investigation of the site.

Status of the Archaeological Record

The overall character of the exposed material can be summarised as follows:

Area and distribution of surviving ship structure	The exposed site is approximately 23m long by 5m wide. The site is likely larger with possible buried material taken into account.
Character of ship structure	The ship survives from the keel to around the turn of the bilge on the starboard side. Two layers of deck beams on the port side survive along with one, possibly two masts and a windlass. It is possible that the entirety of the starboard side could be buried and may have high levels of preservation.
Depth and character of stratigraphy	The character of the stratigraphy is that of wet sand. There is likely buried material on the site and the width of the vessel could suggest structural remains could survive up to 5m below the current level.
Volume and quality of artefactual evidence	No small finds to date, however there is some potential for buried remains.
Apparent date of ship's construction and/or loss	Likely pre 1850
Apparent function	Possible coastal trader

Apparent origin	unknown
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RECOMMENDATIONS

The inspection of the site revealed that there has been a substantial loss of sediment within the wreck area which is why such a large portion of the wreck is exposed. The local people who we consulted confirmed that there has been a major reduction in sediment levels over recent weeks.

The opportunity to investigate the wreck when it is dry and during daylight is rare. The optimum times to visit the site during spring low tides. In general, regular monitoring of the visible remains should be continued to ensure the site is not deteriorating or being damaged.

A more complete site survey should be undertaken whilst the site is so exposed as to ensure the maximum amount of information can be recorded whilst the site is still exposed or is still in such good condition.

REFERENCES

Institute for Archaeologists (2008) *Standard And Guidance for Archaeological Field Evaluation*