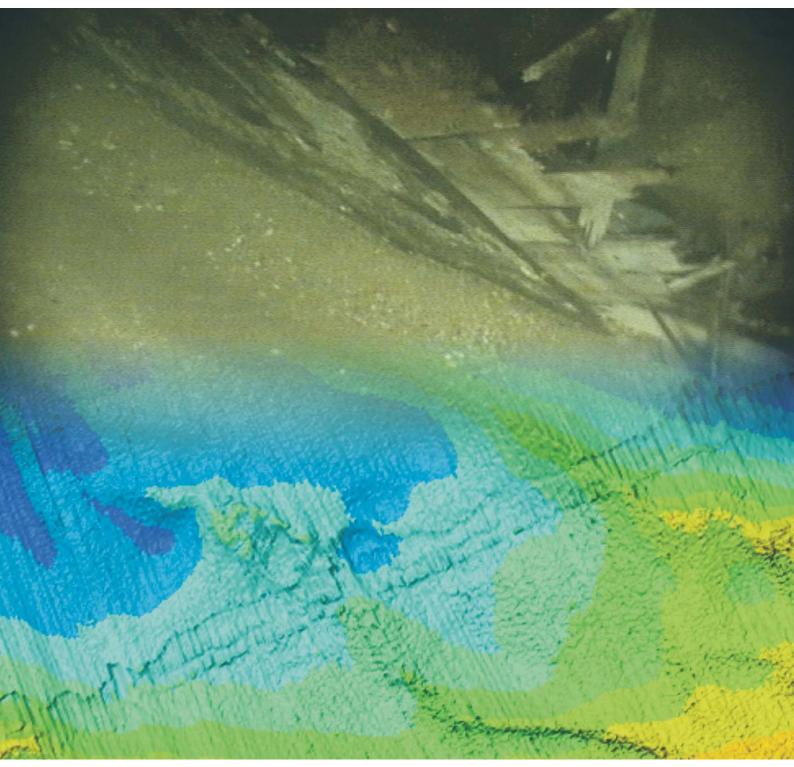


# **Britned Protocol Implementation**

Archaeological Evaluation of a Previously Unreported Wreck at KP~121.910 FINAL



Ref: 64496.03 October 2010



## Archaeological Evaluation of a Previously Unreported Wreck at KP~121.910

Final

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Report Ref: 64496.03

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## Archaeological Evaluation of a Previously Unreported Wreck at KP~121.910

#### **Final**

Ref: 64496.03

## Summary

Wessex Archaeology was appointed by Metoc plc to undertake a desk-based archaeological evaluation of the evidence for a previously unreported wreck. The wreck was discovered during a pre-trench visual survey of the BritNed Interconnector cable (at KP~121.910) in the area of the UK-NL11 (OOS) Campaign 4 reported cable crossing.

According to the UKHO, the nearest known wreck is over 4km away, and there are no obstructions in the area.

The wreck was not visible in the 2008 geophysical data. The recent archaeological assessment of geophysical data (Wessex Archaeology 2010) concluded that the wreck had been entirely covered by a large sand wave, which had since migrated significantly, revealing the wreck site.

This report is in accordance with the agreed Archaeological Reporting Protocol for the development scheme; it comprises the assessment of data supplied by the client, including the recent geophysical data and ROV video. The report provides an archaeological evaluation of the wreck, which reviews the extent and layout of the wreck site and assesses the wreck's character, period and importance.

The wreck extends over an area at least 13.2m north-west/south-east by 5.6m north-east/south-west and comprises a small, lightly built wooden vessel that probably dates to the late 19<sup>th</sup> or 20<sup>th</sup> century. Although there was no evidence for the function of the vessel, based on its size and build it could have been a small fishing or recreational boat. Another possibility is that it was used as a World War II patrol or service boat. The wreck is in fairly poor condition, and the exposed hull timbers are broken and/or eroded.

Overall, the wreck is deemed to be probably of low to medium-low importance, and no further work is recommended.

## Archaeological Evaluation of a Previously Unreported Wreck at KP~121.910

## Final

Ref: 64496.03

## Acknowledgements

This investigation was commissioned by Metoc plc. The data was provided by Global Marine Systems Ltd. and their assistance is acknowledged in this respect.

Andrea Hamel carried out the archaeological assessment and compiled this report. Kitty Brandon prepared the illustrations and the project was managed for Wessex Archaeology by Caroline Budd.

# Archaeological Evaluation of a Previously Unreported Wreck at KP~121.910

# **Final**

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## Archaeological Evaluation of a Previously Unreported Wreck at KP~121.910

#### Final

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#### 1. INTRODUCTION

- 1.1.1 Wessex Archaeology was appointed by Metoc plc to undertake a desk-based archaeological evaluation of a previously unreported wreck. The wreck was discovered on 4 June 2010 by the TSV *Island Pioneer* during a pre-trench visual survey of the BritNed Interconnector cable in the area of the UK-NL11 (OOS) Campaign 4 reported cable crossing (KP~121.910).
- 1.1.2 The wreck had not been identified during the initial archaeological desk-based assessment and geophysical assessment, or in the May 2010 operations conducted by the MV *Atlantic Guardian* (Global Marine Systems, 2010). The feature observed during the laying of the bundled cable on 3 June 2010 was interpreted as a natural seabed formation and was not reported (Global Marine Systems, 2010).
- 1.1.3 After discovery, a General Visual Investigation Survey of the unknown wreck was undertaken by the MV *Atlantic Guardian* operating the WROV Quasar 6 (Global Marine Systems, 2010). The survey was undertaken on 6 June 2010, and it gathered swath bathymetry data and produced a video of the wreck site.
- 1.1.4 An archaeological assessment of the geophysical data (Wessex Archaeology 2010) compared the 2008 and 2010 data and concluded that in the earlier data set, the wreck had been entirely covered by a large sand wave that had since migrated significantly, exposing the wreck site.
- 1.1.5 The wreck was identified on the cable route at approximately KP~121.91, with the approximate position (WGS 198, UTM Zone 31°N) (**Figure 1**):

Easting	Northing
450546	5741447

Table 1: As-found wreck positions (Global Marine Systems, 2010)

#### 2. AIM AND OBJECTIVES

- 2.1.1 The aim of this archaeological evaluation is to provide a non-intrusive Level 2a Archaeological Evaluation of the wreck, as defined in the BritNed Marine Archaeological Reporting Protocol (Metoc 2007).
- 2.1.2 The objectives were as follows:
  - To confirm with the UKHO that there were no known wrecks in the area;
  - To assess the available geophysical data, ROV video and stills provided by the client in order to archaeologically evaluate the wreck site;

• To evaluate, as far as possible from the data, the character, date and importance of the wreck site.

## 3. METHODOLOGY

## 3.1 DATA SOURCES

- 3.1.1 The data sources used for this report focussed primarily on the recent data produced after the discovery of the wreck site.
- 3.1.2 The UKHO provided data for known wrecks within a 6km radius of the discovered wreck. The data was received in October 2010, in WGS84 lat/long and converted into WGS84 UTM31N using Quest Geodetic Calculator.
- 3.1.3 Data supplied by the client included:
  - Sidescan sonar, magnetometer and swath bathymetry data acquired by Fugro Survey Ltd. During July 2008;
  - Still photographs taken by TSV Island Pioneer (Wreck KP121.9), 4 June 2010;
  - ROV video (and still photographs from the video) taken by the WROV Quasar 6 on the MV *Atlantic Guardian*, 6 June 2010;
  - Swath bathymetry obtained by Global Marine Systems Ltd, 6 June 2010;
  - The Atlantic Guardian Campaign 4 General Visual Investigation KP~121.910 report (Global Marine Systems 2010).
- 3.1.4 Additional data sources included the report by Wessex Archaeology (2010) that comprised an archaeological re-assessment of the 2008 data and the assessment of the 2010 geophysical data.
- 3.1.5 Secondary sources pertaining to ship construction, shipwreck importance and other subject areas were also consulted.

#### 3.2 ASSESSMENT OF THE DATA

- 3.2.1 The still photographs taken by TSV *Island Pioneer* provide sufficient evidence to indicate the presence of a wreck site. The scope of the photographs is relatively limited for archaeological purposes, although they include a section of the hull and possible ships' fastenings or other debris.
- 3.2.2 The ROV video taken by MV *Atlantic Guardian* provides far greater scope for archaeological evaluation of the wreck site. However, the visibility during the General Visual Inspection was generally poor to fair, and visibility at times was obscured by subsea sediment in the water column due to tide or disturbance by ROV contact with the seabed (Global Marine Systems 2010). The quality of the video, and the fact that the video was produced without archaeological input, limits its potential to allow a detailed archaeological evaluation of the site, however it is sufficient to develop a preliminary assessment of the wreck. The video and the stills taken from the video illustrate some of the potentially diagnostic features of the wreck.
- 3.2.3 The swath bathymetry data obtained by Global Marine Systems Ltd, 6 June 2010, and archaeologically assessed by Wessex Archaeology (Wessex Archaeology 2010), provides positional and height data for the wreck site, however, as will be

discussed below, it had limitations when determining the full extents of the wreck site.

## 3.3 APPROACH / DATA USE

- 3.3.1 Throughout this report, the Universal Transverse Mercator (UTM31°N) co-ordinate system, based on the WGS 1984 datum, was used to spatially assess the available data.
- 3.3.2 All of the available data supplied by the client, as well as the archaeological assessment of the geophysical data (Wessex Archaeology 2010), was evaluated and analysed to identify diagnostic features that would elucidate the character, date and importance of the wreck site.
- 3.3.3 In order to spatially assess the wreck site, a base map of the site was developed in the ArcView 9.3 Geographical Information System (GIS) software package. The post-lay swath bathymetry data, from 6 June 2010, which clearly illustrates the wreck site was imported into the GIS (**Figure 2**).
- 3.3.4 The ROV video and stills had concise positional data, as the ROV was positioned with USBL, and its centre camera offset was the primary position for the generation for the co-ordinates (Globlal Marine Systems 2010). In order to spatially understand the wreck, the locations of the video stills were superimposed on the base map, and while viewing the video, a table was produced which records the general location and movement of the ROV in relation to the wreck during the survey (**Appendix I**).
- 3.3.5 A sketch of the site (**Figure 2**) was developed based on the ROV video, using the recorded positional co-ordinates and compass heading, and scaled based on the width of the cable (119mm). The sketch provides further details regarding the extent, form and layout of the wreck site.
- 3.3.6 The swath bathymetry data, ROV video and stills, and the sketch were used to develop a description of the site (Section 4 below). Any features that have the potential to be diagnostic are discussed. Where video stills are discussed in the text, they are referred to by their plate number (**Plates 1-23**), and the positions of the plates (based on the ROV co-ordinates) are plotted on **Figure 2**. All video stills are from the 6 June 2010 footage taken by Global Marine Systems, except where otherwise noted. A table detailing the entire photographic archive can be found in **Appendix II**.
- 3.3.7 The description of the wreck site was then used to assess the importance of the wreck site, with reference to guidance from *On the Importance of Shipwrecks* (Wessex Archaeology 2006), a framework methodology developed to evaluate the 'importance' of wrecks on the seabed. The research was primarily aimed at utilisation in the Environmental Assessment process for marine aggregates extraction proposals, and therefore it provides effective, practical guidance for archaeological evaluations of shipwrecks in developmental contexts.

#### 4. ARCHAEOLOGICAL EVALUATION

## 4.1 WRECKS IN THE AREA

4.1.1 According to UKHO data, the nearest known wreck (UKHO 15691) is over 4km away from the recently discovered wreck (**Figure 1**). The other two known wrecks, UKHO 15684 and UKHO 15858 are 4.5 km and 5.2 km away, respectively.

- 4.1.2 UKHO 15691 is an unknown wreck that was first reported in 1956 when it was hit by a tanker. The wreck was wire swept in 1961 and surveyed in 1988. The vessel extends 57m in length, and had a sidescan sonar shadow height of 6.4m. The wreck appeared to be in an inverted position.
- 4.1.3 UKHO 15684 is the MV *Texel*, a Dutch vessel that was lost on 1 September 1965. It measured 37.2m in length, had a beam of 6.7m and a draught of 2.4m, with a gross tonnage of 209. It sank quickly after reporting 'sheaths' broken, and had a heavy list while taking on water. The vessel was surveyed in 1966 and 1967, however it was not found during a sonar search in 1969. Later surveys in 1988 and 1995 revealed that the wreck was largely intact and lying upright and the dimensions on the side scan sonar were 40m in length, 7m width. The two forward hatches were clearly visible on the survey images.
- 4.1.4 UKHO 15858 is an unknown wreck that is lying in two parts, with the main section to the north and the southern part about five to fifteen metres away. The site was discovered in 1995 and surveyed again in 2005. The sidescan sonar survey indicated that the wreck site measured 75m in length by 15m in width. The wreck lies on its port side with one mast evident and disappearing into the seabed. There is substantial damage near the break point at the northern end. The northern part, or bow, of the wreck, is inverted, and two boilers were visible at the western end. One piece of crockery had the government 'broad arrow' on it. The wreck is believed to be British, probably dating to WWI and possibly sunk by a torpedo.
- 4.1.5 The discovery of a previously unreported wreck at KP~121.910 highlights some of the limitations of UKHO data. UKHO geophysical surveys aim to record wrecks and obstructions that particularly affect navigation or shipping; the aim is not to prospect for shipwrecks that could have archaeological importance. Additionally, the survey methods used are more likely to reveal modern, metal hulled wrecks that are upstanding from the seabed than small, wooden wrecks that lie relatively flush with the seabed. The fact that the 1969 survey did not reveal the already known wreck of the MV *Texel* (UKHO 15684) suggests either that the survey methods were not refined enough to identify the wreck or that perhaps the wreck was obscured by sandwaves.

#### 4.2 DESCRIPTION OF SITE

## Site location and extent

- 4.2.1 The wreck is located roughly 65km east-south-east of Felixstowe, Suffolk, east of Outer Gabbard and the Galloper (**Figure 1**). It is situated on sandy seabed deposits, with nearby sand waves which have in the past obscured the site (Wessex Archaeology 2010). As of June 2010, a large sand wave was located 10m northeast of the site. The wreck is located at a water depth of 42-45m, below the surface.
- 4.2.2 Analysis of the bathymetry data collected on the 6<sup>th</sup> June 2010 showed an area of upstanding wreck structure measuring approximately 10m by 4m, with a maximum height of 0.5m (Wessex Archaeology 2010).
- 4.2.3 However, overlaying the positional data from the ROV video stills and the sketch of the wreck produced from the video (**Figure 2**), it appears that the wreckage extends further to the north-west and to the east, and covers an area at least 13.2m north-west/south-east by 5.6m north-east/south-west. The remains of the hull lie relatively flush with the seabed over much of the wreck site, so it is not surprising that these dimensions are not reflected in the swath bathymetry.

4.2.4 The main structure of the wreck is aligned north-west/south-east, and the majority of the interior of the wreck is infilled with sand and partially covered by fishing nets and limited marine growth.

#### **Hull Form and Construction**

- 4.2.5 It is difficult to determine the original dimensions of the vessel, as both ends of the wreck are obscured, and the sides of the wreck are broken and eroded, however it is likely that the vessel was longer than the 13.2m currently visible. Despite not knowing the exact dimensions of the ship, the wreckage still indicates that this was a relatively small vessel.
- 4.2.6 Although both ends of the wreck are obscured, making it difficult to determine which end is the bow, the north-western end of the wreck appears to be formed by a gradual tapering of the port and starboard sides, and the rounded-point at the tip, although covered by a mound of sand, suggests that this is the bow. The port side of the bow was obscured by sand, nets and marine growth, making the exact shape of the bow indistinct. There are no clear video stills that illustrate the NW tip or the mound of sediment, however, **Plate 1** illustrates a view from the bow looking southeast over the starboard side of the wreck, and demonstrates its V-shape and suggests the curvature of the hull.
- 4.2.7 The south-eastern end of the wreck, probably the stern, is illustrated in **Plate 2.** On the starboard side, the side of the hull is broken outwards and the broken end terminates to the north of the cable. On the port side of the wreck, the side of the hull continues under the cable, but is obscured by sediment. Although the wreck could continue for some distance under the sediment, the two ends appear to be tapering towards each other, suggesting that the cable crosses relatively near the south-eastern end of the wreck. There is not enough information to determine the shape of the stern it could have formed a rounded point similar to the shape of the bow, or the vessel could have had a transom stern.
- 4.2.8 The starboard side of the wreck is illustrated in **Plates 3** to **12**, and the port side in **Plates 13** to **16**. Both sets of plates start at the stern of the wreck and move northwest towards the bow.
- 4.2.9 The vessel appears to have been either carvel built or diagonally planked. The clearest examples for revealing the ship's construction are near the stern, where more of the vessel structure is upstanding. On the starboard side, there is a section of upstanding hull, and a number of planks rise up from the seabed, possibly suggesting diagonal planking (**Plates 5** and **6**). However the timbers are quite badly damaged, making it difficult to confirm, in the absence of further close up photographs. On the port side of the wreck, a couple of strakes of planking are revealed in the sediment (**Plate 13**), and these appear to run horizontally which could suggest carvel planking.
- 4.2.10 In spite of difficulties in confirming the construction method of the hull, the photographs reveal that the vessel was fairly lightly built. Overall, the planking appears quite fine (it does not have substantial width or depth), as illustrated on the starboard side in **Plates 3** to **6** and **10**, and on the port side in **Plates 13** and **14**. The planks probably measure between 10cm and 30cm in width with a depth of 3cm to 5cm, but the fact that they are broken, damaged, eroded, and in places covered in marine growth, makes it difficult to determine.
- 4.2.11 The light colour of the timber suggests that it is not oak, and in places it appears to be painted.

- 4.2.12 It is possible that iron/metal fittings were used as supports or knees, as they appear to be visible in **Plates 3** and **6**.
- 4.2.13 **Plates 7** to **10** show the starboard side of the hull, to the north-west of the area of upstanding structure (**Plates 4** to **6**). In addition to illustrating the damaged nature of the hull, these photographs appear to show protective sheathing, or possibly paint, separating from the timber.
- 4.2.14 At the bow end of the wreck, the evidence for the shipwreck structure is limited to timbers that protrude only slightly from the seabed. While these contribute to an understanding of the size and layout of the vessel, they are not exposed sufficiently to provide further information about the ship's construction.
- 4.2.15 The starboard side of the vessel near the bow is illustrated by **Plates 11** and **12**, taken facing south-east. In addition to showing the line of the hull, they illustrate where sections of the hull are dislocated, with timbers laying at different angles to the hull.
- 4.2.16 Visibility was generally poor during the ROV video runs on the port side of the vessel, however, the edge of the hull is exposed on the seabed for much of the length of the wreck (**Plates 15** and **16**). Although, nearing the bow, the edge of the hull becomes obscured by sand, netting and marine growth, which prevented detailed examination.

## Related Shipwreck Material and General Debris

- 4.2.17 There were few examples of fittings, potential machinery or possibly associated material was visible on the wreck site.
- 4.2.18 The majority of the interior of the wreck was covered by a layer of sand of unknown depth and masked by various fish nets and ropes (**Plates 17** and **18**). Marine growth on the nets and sand mounds also obscured the site. Although there could have been fish nets associated with the wreck site, much of the netting is clean, suggesting it was only recently lost (ie: **Plate 18**). Therefore, it is more likely that the nets resulted from fisherman's snags and were lost during recent fishing activity.
- 4.2.19 At the bow of the vessel, there appears to be a small mound, possibly associated with the bow structure, although it could also represent some form of machinery, possibly a winch. The small mound is squat and cylindrical, and part of it appears to have a thicker circumference. Unfortunately, it was not possible to produce a still of the feature, as the video footage in this area was subject to poor visibility (from the video time code 21:04:00 onwards). If the mound is related to machinery, the sand covering is likely fairly sparse.
- 4.2.20 A box or chest was located inside the wreck, against the north (starboard) side of the hull (**Plate 19** and **20**). It is unknown what the box was made of. Although it could be a made of metal, its pitted appearance suggests stone or concrete, whereas the rounded edges might suggest it was made of wood. The box measured approximately 1m long (north-west/south-east) by at least 50-70cm wide, and at least 20-40cm tall. The purpose of the box is unknown, and although possible explanations for using a stone or concrete box in a boat of this size would be for balance or to set the engine in, this type of box or weight would usually be positioned along the keel line, not butted up against the side of the hull.
- 4.2.21 Three other areas of finds within and around the hull seem to suggest a relatively modern date for the wreck. However, due to their exposed location on the seabed.

- they could represent debris dropped over the side of passing vessels, or, like the fishing nets, result from material catching on the wreck.
- 4.2.22 A small section of chain that appeared to be fairly modern was located to the east of the stern (**Plate 21**).
- 4.2.23 Photographs from the 4 June 2010 TSV *Island Pioneer* survey show an area of metal debris and possible ship fittings (**Plate 22**). The positioning details of the photograph locate the material immediately to the north-west of the box, however this material was not re-discovered during the 6 June 2010 survey, possibly suggesting that it was obscured by nets or rope. It was not possible to identify the material from the photograph, although it appeared to be relatively modern.
- 4.2.24 Additional modern material was identified during the 6 June 2010 survey, and it was located near the stern of the vessel (**Plate 23**). It appears to consist of possibly rubber or metal hoses/cables/tubing and associated metal, rope and net debris.

## 4.3 CHARACTER, DATE AND IMPORTANCE OF THE SITE

- 4.3.1 The importance of a wreck can be determined based on its build, use, loss, survival and investigation, within a framework of questions about the physical evidence, the vessel itself, the context of the vessel, the wreck's potential, its wider associations, and dimension of interest (Wessex Archaeology 2006).
- 4.3.2 **Build:** The vessel is a relatively small, lightly built wooden wreck of either carvel or diagonal plank construction. The material and fastenings are consistent with late 19<sup>th</sup> and 20<sup>th</sup> century ship construction techniques. Given the vessel's apparently relatively modern date, it is unlikely to have the potential to reveal significant new information about shipbuilding techniques.
- 4.3.3 **Use:** There is no evidence for the function of the vessel, however, based on its size, build and likely age, it could have been a small fishing boat or recreational boat. Another possibility is that it was a WWII patrol or service boat.
- 4.3.4 **Loss:** There is no evidence for how or why this boat was wrecked. It could have been lost as a result of human error, weather, or, if lost during WWII, as a result of enemy action.
- 4.3.5 **Survival:** It is difficult to confirm the survival of the wreck based on the available evidence. The wreck is not complete, but not knowing its original form makes it difficult to determine how much of the wreck has been lost. Overall, the wreck appears to be at least moderately complete. Although some of the exposed timbers are damaged, broken and eroded, some of the wood appears relatively fresh, which suggests that the wreck was well preserved while it was covered by the sandbank. There is potential for medium-high to high levels of preservation under the sand and net covering in the centre of the wreck, however this has not been confirmed. There are a low to moderate range of artefacts and structural elements visible on the seabed, although more could be buried in the sand.
- 4.3.6 The impact from the cable laying was relatively minor. However, further impact will result from string rock placement for the protection of the cables. String rock placement is achieved through the use of a Fall Pipe Vessel (FPV) that is purpose built for the accurate placement of rock/gravel material in a controlled manner (Metoc 2010). Well graded 1-5" rock will be placed to achieve 1.0m of protection above the seabed, and will cover approximately 3m of seabed to either side of the cables (*ibid*). During the deployment of the rock, there is likely to be initial negative

impact as the rock reaches the seabed (having been deployed from between 4-6m above the seabed), damaging the already fragile upstanding timbers. Additionally, there could be compression damage from the weight of the rock. However, in the long term, the layer of rock could positively impact the remaining wreckage, as it may contribute to the *in situ* preservation of the vessel. Government policy and international best practice favour the preservation *in situ* of archaeological remains.

- 4.3.7 **Investigation:** This wreck was only recently discovered, and there is no evidence for previous investigations on the site. The wreck is located a considerable distance offshore, and therefore is not easily accessible, thus lowering its potential for public education or research.
- 4.3.8 **Summary Statement**: this wreck is deemed to have low to medium-low importance. If further research/survey were to indicate that the vessel is either older than currently thought, associated with military activity or had some other historic association, its importance might increase. However no further work is recommended.

## 5. CONCLUSIONS

- 5.1.1 The previously unrecorded wreck appears to comprise a small, lightly built, late 19<sup>th</sup> or 20<sup>th</sup> century vessel that was used as a fishing boat, recreational boat, or possibly a WWII patrol or service boat. The wreck is considered to be of low to medium-low importance.
- 5.1.2 The recent archaeological assessment of geophysical data (Wessex Archaeology 2010) concluded that during previous surveys, the wreck had been entirely covered by a large sand wave. However, the recent (June 2010) swath bathymetry data illustrates that the sandwave has moved significantly to the north-east, and thus has revealed the wreck.
- 5.1.3 No further work on this site is recommended.

## 6. REFERENCES

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- Wessex Archaeology, 2010, Britned Protocol Implementation: *Archaeological Assessment of Geophysical Data*, unpublished report, ref: 64496.01

# **APPENDIX I**

The following table is based on the ROV video footage that was produced by MV Atlantic Guardian.

Time from	Time to	General description
204447	204750	SW part of wreck – following cable to the SW
204751	204920	Moving generally NW along the starboard side of the hull (on the inside of the wreck)
204920	205200	Moving around the starboard side of the wreck (on the inside of the wreck)
205200	205400	Off the wreck site
205400	505444	Approaching the NW end of the starboard side of the wreck (outside of hull)
205444	205624	Moving roughly SE down the starboard side of the wreck (outside of hull)
205624	205758	Moving around the SE (stern) end of the wreck
205758	205915	Moving roughly NW along the port side of the wreck
205915	210023	Moving roughly SE along the starboard side of the wreck (outside of hull)
210023	210340	Moving around the SE (stern) end of the wreck
210340	210416	Moving roughly NW along the port side of the hull
210416	210530	Moving SE along the starboard side of the wreck
210555	210700	SE (stern) end of the wreck
210700	End	Moving NW through the interior of the wreck, however visibility was particularly poor

## **APPENDIX II**

The following table is based on Table 2 that was produced by Global Marine Systems and records the positions of items of significant interest noted during offline video review (Global Marine Systems 2010). The items are listed in survey chronological order, and the photo number refers to the time-code on the video. For video sections not covered by photographs, the time-code range has been included.

Photo No.	Report Reference	From	KP	Easting	Northing	Description from Report (GMS 2010)	Comment
121.906-01		IP	121.906	450541.6	5741448.6		Netting
121.906-02	Plate 22	IP	121.906	450544.9	5741449.7		Possible ships fastenings or other metal debris
121.906-03		IP	121.906	450545.3	5741449.9		Timber – covered by marine growth and possible netting
121.906-04		IP	121.906	450547.3	5741450.1		Timber – view of north-east side of wreck
121.906-05	Plate 3	IP	121.906	450548.8	5741449.4		Part of hull
121.906-06		IP	121.906	?	?		Timber under cable
204459	Plate 21	AG - Still	121.910	450552.12	5741447.53	Possible chain under cable	Chain appears fairly modern
204553		AG – Still	121.913	450549.25	5741446.64	Cable over wood	Port side of hull - section of hull planking visible
204559	Plate 13	AG – Still	121.912	450549.09	5741446.23	Cable over wood proud of seabed	Port side of hull - slightly closer view of 3 strakes of hull planking – planks measure approx 8-10cm across (unless 'top' plank and 2 <sup>nd</sup> plank are one – in which case they measure 18cm across
204606		AG – Still	121.911	450548.04	5741445.66	Cable over wood	Timber at angle to hull side
204611		AG – Still	121.911	450547.50	5741445.49	Cable over wood	
204716	Plate 14	AG – Still	121.908	450545.06	5741444.76	Cable over debris proud of seabed	View of outer side of section of hull on seabed (204559 / Plate 13) – illustrates light build – the depth of planking is narrower than the cable – (cable = 119mm)

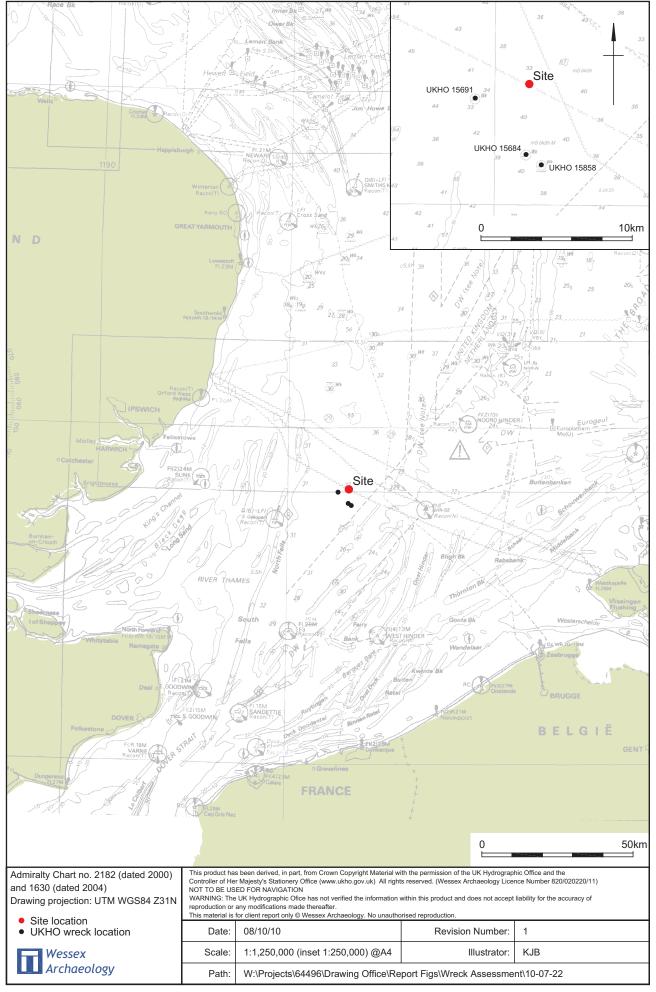
Photo No.	Report Reference	From	KP	Easting	Northing	Description from Report (GMS 2010)	Comment
204726		AG – Still	121.909	450546.25	5741444.77	Cable over debris proud of seabed	Plank width – possibly 5cm? m- lots of growth, difficult to tell
204728		AG - Still - WA		450546.17	5741444.63		Material within the hull - debris on seabed – possible metal, rope or cable loops -
204743		AG – still - WA		450			Debris on seabed –possible metal, rope or cable loop proud of seabed – additional material upstanding behind – possibly visible top left of 204726
204802		AG – Still	121.911	450547.13	5741447.25	Unknown wreck debris	Starboard side of hull – nears SE (stern) end
204811	Plate 6	AG - Still	121.911	450547.13	5741447.29	Possible hull structure proud of seabed	Broken up section of starboard side of hull. Photo exhibits two distinctly different colours of timber – possibly different wood species, but more likely paint. The planking appears quite fine – it doesn't have much width.  It is possible that iron fittings were used as supports/knees suggesting a 19 <sup>th</sup> or 20 <sup>th</sup> century vessel.  The timber (also on photo 204911) appears to have small joggles on it – although this is more likely damage and erosion rather than clinker planking – as the planking here appears to be carvel.  ROV video of this section shows that parts of planking were loose and were moving in the current
204831	Plate 7	AG – Still	121.911	450547.06	5741447.81	Wood broken up	Starboard side of hull – broken up
204839	Plate 8	AG – Still	121.911	450546.34	5741448.66	Metal chest, wood and metal beam	Starboard side of hull – broken up - possible sheathing peeling from hull
204859	Plate 18	AG – Still – WA		450544.64	5741449.67		Modern nets

Photo No.	Report Reference	From	KP	Easting	Northing	Description from Report (GMS 2010)	Comment
204910	Plate 9	AG – Still	121.910	450545.80	5741449.13	Metal chest, wood and metal beam	Starboard side of hull – broken up - possible sheathing peeling from hull
204913	Plate 19	AG – Still	121.910	450545.63	5741448.59	Wood and possible metal	A stone or metal chest is visible – measures approximately a metre in size. The surface of the chest appears to be pitted – suggesting stone.
204939	Plate 20	AG – Still	121.910	450546.70	5741447.10	Wood broken up	Side view of metal chest – probably roughly a metre across
204941	Plate 10	AG – Still	121.910	450546.27	5741447.34	Possible wire rope, fishnet debris and wood	Starboard side of broken up hull – illustrates light build of wreck
205050		AG – Still	121.911	450548.22	5741445.78	Scattered items of debris	Starboard side of hull - broken up section of hull - debris in foreground - possible cable/rubber tubing/ debris?
205125		AG – Still - WA		450548.28	5741445.99		Facing starboard side of hull – debris in foreground – possible cable/rubber tubing?
205131- 205132		AG – video		4580548.7	5741146.63		Side of starboard hull upstanding
205136	Plate 5	AG – Still - WA		450548.96	5741447.1		Starboard side of hull – showing light build –also good for illustrating sand fill
205138	Plate 4	AG – Still - WA		450549.23	5741447.64		Starboard side of hull – view towards exterior of hull
205138- 205139		AG – video		450549.23	5741447.64		Starboard side of hull – view outside wreck – looking towards exterior of hull
205445		AG – Still	121.908	450541.25	5741452.87	Fishnet debris and wood	View near NW (bow) end of wreck – possible machinery other material inside the hull – covered by marine growth and netting
205449	Plate 1	AG – Video		450541.17	5741452.87		View near NW (bow) end of wreck - possible bow – V-shape visible
205457	Plate 11	AG – Still	121.908	450541.75	5741452.89	Fishnet debris and wood	View near NW (bow) end of wreck - at possible bow – part of hull upstanding? Rope/vegetation

Photo No.	Report Reference	From	KP	Easting	Northing	Description from Report (GMS 2010)	Comment
205507	Plate 12	AG – Still	121.910	450543.68	5741452.12	Scattered items of debris	Scattered debris – possible section of disarticulated hull or other material, modern rope
205734	Plate 23	AG – Still – WA		450549.25	5741446.49		Debris inside hull – possible metal/rubber tubing?
205803	Plate 15	AG – Still		450547.49	5741445.59		Port side of hull – netting and debris in hull
205820	Plate 16	AG – Still – WA		450544.91	5741447		Port side of hull – netting and debris in hull
205836		AG – Still		450546.31	5741449.99		Side of hull
205854	Plate 17	AG – Still	121.907	450542.10	5741448.57	Fishnet debris	Illustrates extent of netting coverage
210229		AG – Still	121.913	450550.45	5741445.35	Cable lateral view of cable over wood	At SE (stern) end of wreck – terminus of the starboard side of the hull.
210227 – 210235 210611 – 210613		AG – video		450550.98	5741444.91		Stern of vessel - Suggests ends tapering together?
210231	Plate 2	AG – Still – WA		450550.98	5741444.91		Photo taken from SE of the wreck - suggests port ends of hull tapering together
2104XX – 2108XX		AG - Video					ROV passes over a small mound, first across its width then across its length – at first glance it looks squat and cylindrical with some parts of it seeming to have a thicker circumference. Possibly some form of machinery, such as a winch lightly covered in sediment?

Table A1: Video times and stills with positions and descriptions of items of significant interest noted during offline video review (based on table from Global Marine Systems 2010: 5-6).

Key: IP = TSV *Island Pioneer*, AG = MV *Atlantic Guardian*; Photo numbers marked WA were captured from the video by Wessex Archaeology and are not included in the Global Marine Systems report.



Site location Figure 1

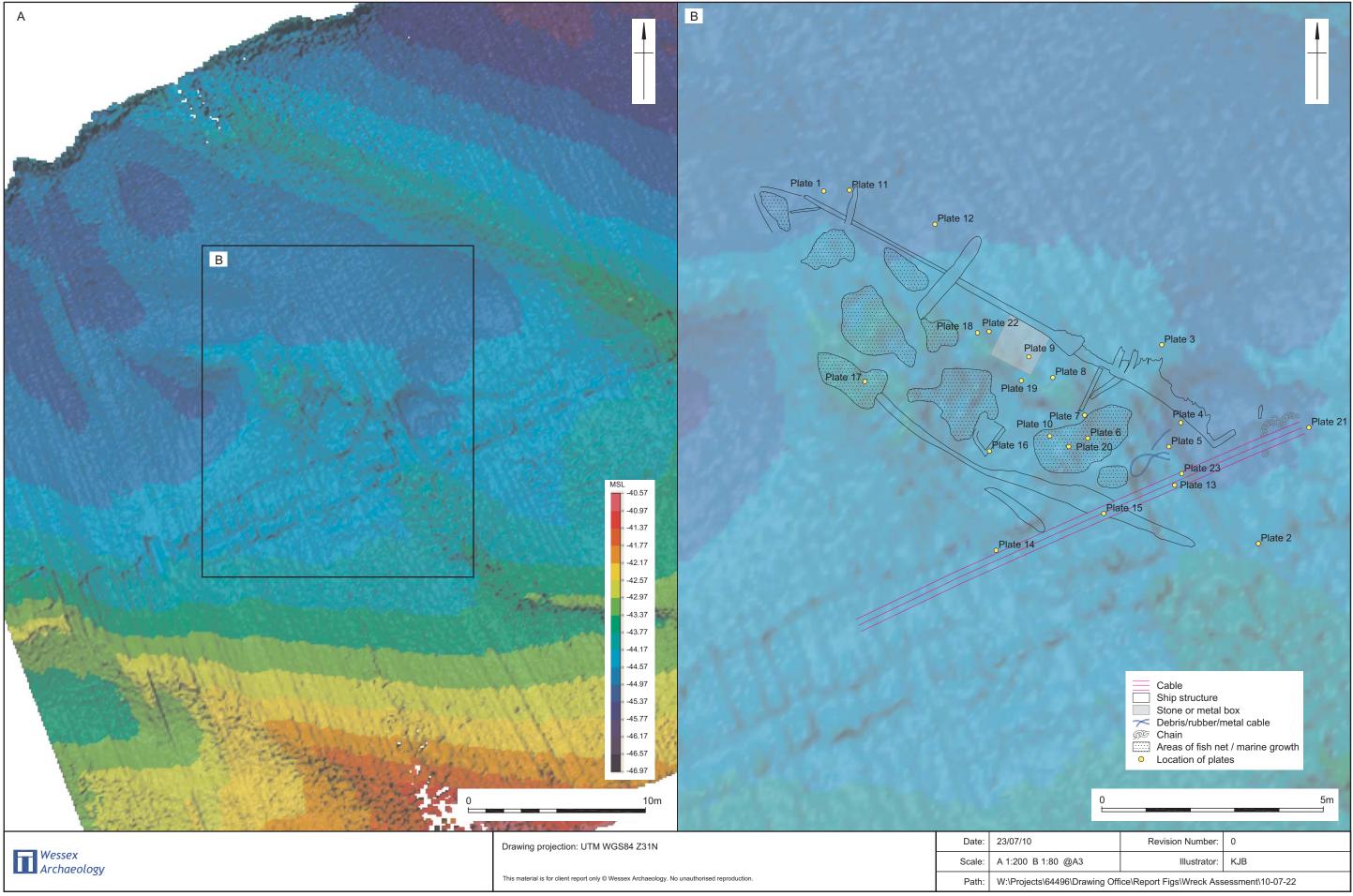




Plate 1: The bow - at the NW end of wreck



Plate 2: The stern – at the SE end of the wreck – note hull sides tapering together

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The bow and stern Plates 1-2



Plate 3: Debris at KP 121.906-05 (from Island Pioneer)
– section of hull – probably on the north side of the wreck



Plate 7: Immediately NW of Plate 6 – view of starboard side of hull, facing NE  $\,$ 



Plate 4: View of starboard side of hull, facing NW (from outside of the wreck)



Plate 8: Immediately NW of Plate 7 – view of starboard side of hull, facing NE – note sheathing



Plate 11: View of starboard side of hull, facing south



Plate 5: View of starboard side of hull – facing NW – note light build



Plate 9: Immediately NW of Plate 8 – view of starboard side of hull, facing NE



Plate 12: View of starboard side of hull – near NW end – facing SE – note dislocated timber extending from side of wreck



Plate 6: View of starboard side of hull from the inside of the wreck, facing NE

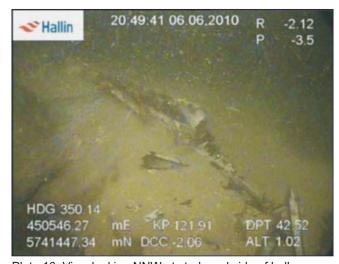


Plate 10: View looking NNW at starboard side of hull

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The starboard side of the wreck



Plate 13: View of port side of hull, facing WSW



Plate 14: View of port side of hull, facing east (back side of Plate 13 – note light build)



Plate 15: View of port side of hull (NW of Plate 13), facing NW



Plate 16: View of port side of hull (NW of Plate 15), facing NW

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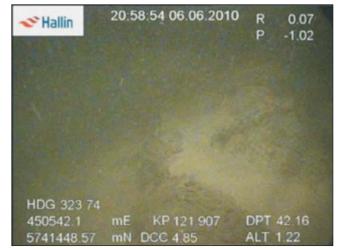


Plate 17: Example of nets covering wreck



Plate 18: Modern nets covering wreck



Plate 19: Box or chest on north side of wreck



Plate 20: Second view of metal or stone box on north side of wreck



Plate 21: Chain under cable



Plate 22: Debris at KP 121.906-02 (from Island Pioneer) – possible fittings or fastenings



Plate 23: Debris within wreck – possible metal or rubber tubing, rope and netting



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Debris on seabed – possible fittings



