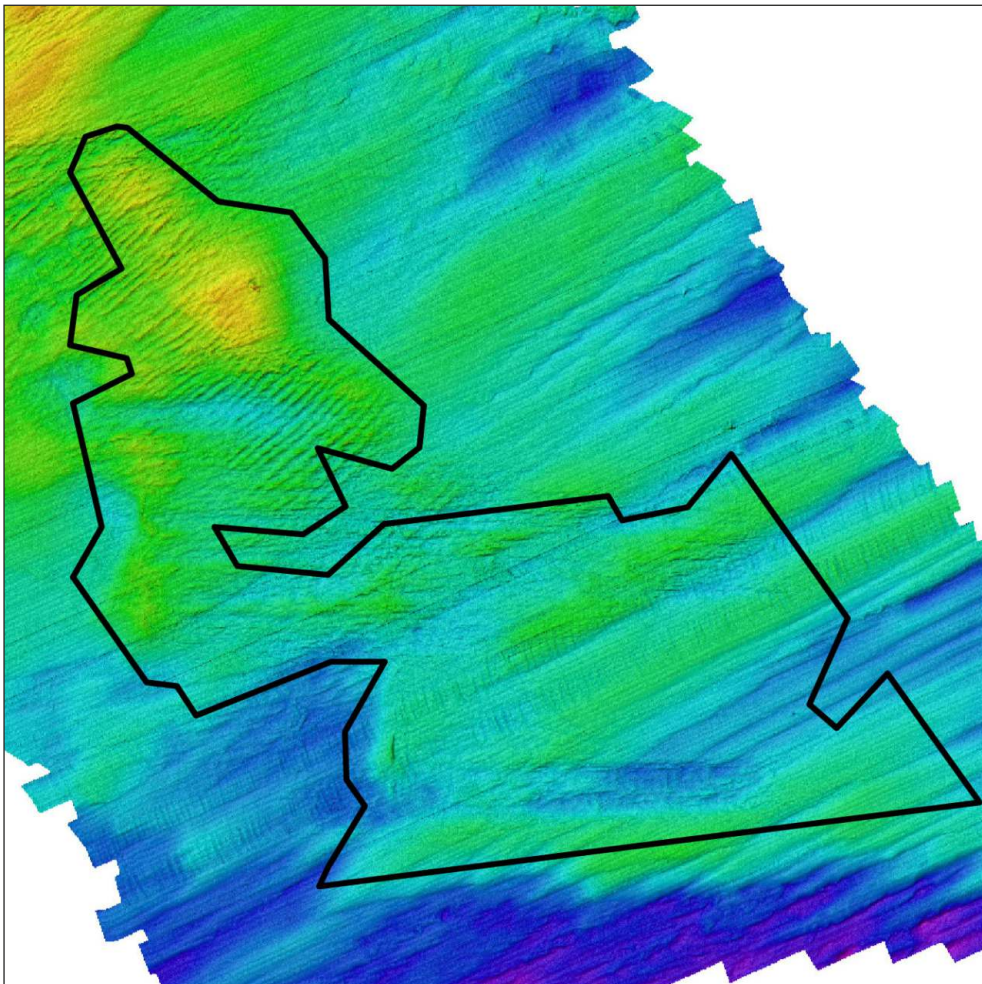




making sense of heritage

## Area 127

Baseline Archaeological Assessment



Ref: 106600.02  
November 2014



## **Area 127**

### **Baseline Archaeological Assessment**

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# Area 127

## Baseline Archaeological Assessment

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## Area 127

### Baseline Archaeological Assessment

#### Summary

Wessex Archaeology (WA) was commissioned by Lafarge Tarmac Marine Limited and Hanson Aggregates Marine Limited to conduct an archaeological assessment of 40 geophysical anomalies identified by Titan Environmental Surveys Limited (Titan) within the proposed new licence boundary for existing Licence Area 127 and a 150m buffer of the area.

Sidescan sonar and multibeam bathymetry data were assessed at the 40 anomaly positions and an archaeological interpretation of each feature added to the list of features provided by Titan. A total of 38 of the 40 anomalies were identified by WA with two not seen. The majority of the anomalies, 30, were interpreted as being natural in origin. Seven anomalies were interpreted as being possibly of archaeological interest and are possible items of debris. A single anomaly, S12, is clearly of archaeological interest as it is the wreck of the *Venezuela*.

In terms of mitigation, a single Archaeological Exclusion Zone is proposed comprising a buffer of 50m around the extent of the wreck of the *Venezuela*. Finds of known or possible archaeological interest recovered through dredging operations should be reported through the Marine Aggregate Industry Protocol for Reporting Finds of Archaeological interest (BMAPA and EH 2005).



## Area 127

### Baseline Archaeological Assessment

#### **Acknowledgements**

The geophysical data were provided by Vince Grove of Titan Environmental Services Limited.

Wessex Archaeology is grateful to Dr Andrew Bellamy of Lafarge Tarmac Marine Limited for assistance with various aspects of the project. Thanks are also due to Nigel Griffiths and Louise Mann of Hanson Aggregates Marine Limited.

The geophysical data were assessed and the report written by Dr Stephanie Arnott. Illustrations were created by Ken Lymer. The project was managed for Wessex Archaeology by Dr Louise Tizzard.

## Area 127

### Baseline Archaeological Assessment

#### 1 INTRODUCTION

- 1.1.1 Wessex Archaeology (WA) was commissioned by Lafarge Tarmac Marine Limited and Hanson Aggregates Marine Limited to conduct a baseline archaeological assessment of the proposed new licence boundary for licence Area 127. This assessment was to consist of an archaeological interpretation of 40 geophysical anomalies identified by Titan Environmental Surveys Limited (Titan) within the proposed new licence boundary and a 150m buffer of the area (**Figure 1**). The anomalies that are situated immediately outside the dredge area will be assessed in order to recommend any exclusion zones that may impact the dredging area. This assessment is required to satisfy some of the conditions of the Marine Licence granted for aggregate extraction by the Marine Management Organisation (MMO).
- 1.1.2 Area 127 is licenced by Lafarge Tarmac Marine Limited and Hanson Aggregates Marine Limited and is situated approximately 12km southwest of the Needles, Isle of Wight. The Marine Management Organisation Marine Licence issued in October 2013 (MMO 2013) includes the following conditions:
- *5.2.7 No dredging is permitted until the licence holder provides details of any known features of archaeological interest within the licence area to the MMO, and acknowledged by them and The Crown Estate in writing.*
  - *5.2.8 The licence holder must provide details of exclusion zones (EZ) relating to thickness, sensitive nature conservation features and features of archaeological interest to the MMO prior to the commencement of dredging and be acknowledged by them and The Crown Estate in writing.*
  - *5.2.9 The licence holder must ensure that appropriate mitigation measures are developed with archaeological curators, as defined in the guidance note 'Marine Aggregate Dredging and the Historic Environment' (British Marine Aggregate Producers Association (BMAPA) and English Heritage, 2003), to protect features of archaeological interest prior to the commencement of dredging. These measures must be agreed with English Heritage, and implemented as agreed. Archaeological curators, the MMO and The Crown Estate must be informed of the agreed measure(s) prior to the commencement of dredging.*
- 1.1.3 Wessex Archaeology has undertaken previous work in Area 127, including the Regional Environmental Impact Assessment (REIA) for Area 127 (WA 2011). The REIA documented one known wreck and three groups of exclusion zones impacting the area under current assessment. Also, 57 reports of finds reported through the Marine Aggregate Industry Protocol for Reporting Finds of Archaeological Interest (BMAPA and EH 2005) indicate the presence of prehistoric, maritime and domestic finds.



## **2 METHODOLOGY**

### **2.1 Geophysical Survey**

- 2.1.1 The geophysical survey was undertaken by Titan between January and April 2014. The survey was conducted using swath bathymetry, sidescan sonar and boomer sub-bottom profiler over the licence area and a 500m surrounding zone. The field work was carried out using the survey vessel *Titan Discovery*. Data were acquired with a line spacing of 100m for the main lines and a 500m spacing for the cross lines.
- 2.1.2 Sidescan sonar data were acquired with an Edgetech 4200-FS towfish. Data were acquired at both high (420kHz) and low (100kHz) frequencies with a range of 75m. The towfish was towed astern of the vessel with a layback of 20-30m. Layback was determined manually. Digital data were recorded with fish positioning provided via HYDRpro's towline estimation utility (Titan 2014).
- 2.1.3 Multibeam bathymetry data were acquired with a GeoAcoustics Geoswath Plus system operating at 250kHz. It was deployed through the moon pool on the survey vessel (Titan 2014).
- 2.1.4 The sidescan sonar data were supplied to WA as xtf files with navigation information contained within the files. Multibeam bathymetry data were provided as gridded xyz files with a 1m cell size. The sub-bottom profiler data were not required to be assessed by WA.

### **2.2 Data Processing Methodology**

- 2.2.1 The high frequency sidescan sonar data were processed by WA using Coda Geosurvey software. This allowed the data to be replayed with various gain settings in order to optimise the quality of the images.
- 2.2.2 When measuring targets in sidescan sonar data the maximum length, width and height of each anomaly are measured. If an object is seen on more than one line of data then the anomalies for this object are grouped together. The average position of the anomalies is given for the target. The maximum of each of the three measurement values are given, irrespective of which anomaly the measurement was made on.
- 2.2.3 A mosaic of the sidescan sonar data is produced during the data processing to assess the quality of the sonar towfish positioning. This allows the position of anomalies to be checked between different survey lines and for the layback values to be further refined if necessary. The navigation information was contained within the data files themselves.
- 2.2.4 The multibeam bathymetry data were made into a digital terrain map using IVS Fledermaus software. These data were examined for evidence of the anomalies.
- 2.2.5 The initial interpretation of the geophysical data sets is conducted independently of each other. This inevitably leads to the possibility of any one object being the cause of numerous anomalies in different datasets and apparently overstating the number of archaeological features in the area.
- 2.2.6 To address this fact, the anomalies were grouped together. This allows one ID number to be assigned to a single object for which there may be, for example, a bathymetric anomaly and multiple sidescan sonar anomalies.





2.2.7 Once all the geophysical anomalies have been grouped, a discrimination flag is added to the record in order to discriminate against those which are not thought to be of an archaeological concern. These flags are ascribed as listed in **Table 1**.

**Table 1: Criteria discriminating relevance of feature to proposed scheme**

Origin	Discrimination Class	Interpretation
Non-Archaeological	U1	Not of anthropogenic origin
	U2	Known non-archaeological feature
	U3	Non-archaeological hazard
Archaeological	A1	Anthropogenic origin of archaeological interest
	A2	Uncertain origin of possible archaeological interest
	A3	Historic record of possible archaeological interest

2.2.8 Records of wrecks and obstructions within the assessment area and surroundings were obtained from the United Kingdom Hydrographic Office (UKHO).

2.2.9 The sidescan and bathymetry anomalies were grouped together where they correlate for each of Titan's 40 anomalies. Titan's original anomaly numbers were retained. UKHO records that fall within the assessment area were included and grouped where appropriate. A gazetteer of all 40 anomalies was produced with Titan's original information and WA's interpretation (**Appendix I**).

### 2.3 Approach

2.3.1 The anomalies identified by Titan were listed in their report under the heading of Man Made Features and Obstructions (Titan 2014). They are described as seabed contacts, with all anomalies except wrecks stated to be point reflectors. Positions and dimensions (in some cases just of the longest axis) are given but the majority of anomalies have no description.

2.3.2 Using the sidescan sonar trackplot provided by Titan, individual lines of sidescan sonar data were selected that covered each of the 40 anomalies to be assessed. The trackplots and data files both contain fix marks so it was possible to scroll through the data until the fix mark at which the anomaly was seen was reached. If there was no visible anomaly at the position given by Titan then the next line of data covering the anomaly position was examined. If the anomaly was clearly identified in the first line of data then it was not searched for in other lines. Most anomaly positions were covered by two lines of data. Some were covered by more if a line had been re-run.

2.3.3 It should be noted that not every line of sidescan sonar data was provided to WA. In some cases this resulted in only one line of data covering an anomaly position being available for assessment. However, enough data were provided to assess all anomaly locations.

2.3.4 The multibeam bathymetry data were assessed at the locations of the anomalies and any corresponding features were noted and grouped with the sidescan sonar interpretation as described above.

## 3 RESULTS

3.1.1 The majority of the anomalies were identified in the data by WA but there were two exceptions; **S72** and **S73** were not clearly identified despite three lines of data being assessed in each case.

- 3.1.2 Of the 38 anomalies that were identified only eight were interpreted as being of archaeological potential. The other 30 anomalies were interpreted as being natural in origin, principally rocks. Full details of all anomalies with both Titan's original information and WA's archaeological interpretation are given in the gazetteer in **Appendix I**.
- 3.1.3 There is one wreck, **S12**, which lies in the north of the area (**Figure 2**). The wreck of the *Venezuela*, was observed in both the sidescan sonar and multibeam bathymetry data as lying upright and oriented northwest/southeast. The wreck was observed in the sidescan sonar data as mostly intact and partially buried with some debris lying against the eastern side. Together with the adjacent debris the wreck measures 66.4m x 19.2m x 2.4m. The northwestern end of the wreck appears partially buried and with some debris adjacent. In the multibeam bathymetry data this end of the wreck appears to be broken off or buried. There is scouring around this end of the wreck and there appears to be a build-up of sediment to the eastern side of the wreck. The sidescan sonar data shows more detail of the internal structure of the wreck but part of this is obscured by acoustic shadows created behind the higher parts of the wreck.
- 3.1.4 The *Venezuela* was an Argentinean flagged vessel that was sunk on 14th March 1918. She was built of steel in 1907 by Bow, McLachlan and Co. Ltd. of Paisley. At the time of loss the vessel was owned by CIA Argentina de Nav. The *Venezuela* was on passage from Swansea to Rouen via Falmouth with a cargo of coal for Rouen. Having left Falmouth on 13th March she was torpedoed by UB-89 and sunk the following day.
- 3.1.5 The UKHO records that the wreck is generally intact but collapsing. The as built dimensions are 64.4m length, 10.4m width and a draught of 3.3m. The details of the last dive given in the UKHO record, made in 2008, states that two large boilers are the highest part of the wreck, the drive shaft is bent through 90 degrees and there is no sign of the propeller. There was also a heap of anchor chain at the bow. These details are not clearly seen in the geophysical data.
- 3.1.6 Details from various dives given in the UKHO record do not indicate which way round the wreck lies i.e. which end is the stern and which the bow. The details given from a survey in January 2012 by EMU include that the bow of the vessel lies to the southeast.
- 3.1.7 Seven anomalies were discriminated as A2: of uncertain origin of possible archaeological interest. All are dark reflectors of various sizes that may be debris. Two of these anomalies, **S4** and **S116**, are located outside the proposed new licence area (**Figure 1**).
- 3.1.8 Three items, **S116**, **S117** and **S156**, are linear features. **S117** is the largest at 5.8m x 0.4m x 0.1m. **S116** and **S156** are similar in size to each other with respective dimensions of 3.4m x 0.6m x 0.6m and 3.9m x 0.3m x 0.1m.
- 3.1.9 **S23** is an indistinct object that appears possibly angular in shape. It has dimensions of 2.4m x 1.7m x 1.6m. An area of disturbed seafloor (8.0m x 7.2m x 0.0m) surrounding this anomaly is apparent in the sidescan sonar data. In the multibeam bathymetry data this area appears as a depression with dimensions of 19m x 10m x -0.2m, within which lies the object. **S117** lies approximately 5m east of **S23** and may be related to it.
- 3.1.10 The three remaining anomalies are less likely to be debris owing to their physical characteristics. However, they have been retained because they are isolated and anomalous in nature. **S4** is a blocky object with height. It is indistinct and has dimensions of 2.1m x 1.6m x 0.8m. **S19** is an elongated object with height that has dimensions of 1.7m x 0.6m x 1.2m. **S107** is rather larger at 3.7m x 2.0m x 1.3m. It is a rounded object that lies isolated on the seafloor. It may possibly have a smaller object adjacent.



## 4 MITIGATION

- 4.1.1 With regards to mitigation of archaeology, the marine planning authority, working with the relevant regulator and advisors, takes account of the desirability of sustaining and enhancing the significance of heritage assets and adopts a general presumption in favour of the conservation of designated heritage assets within an appropriate setting (HM Government 2011; DCALG 2012).
- 4.1.2 There are currently eight exclusion zones situated within the current extent of Area 127. Seven of these lie wholly or partially within the proposed new licence area (**Table 2**). These exclusion zones are 200m in radius and circular in shape. They were provided to WA in WGS84 geodetic coordinates during the REIA (WA 2014) by MarineSpace and the British Marine Aggregate Producers Association.

**Table 2: Current exclusion zones in Area 127**

Location	WGS84 Latitude	WGS84 Longitude	UTM30N Easting	UTM 30N Northing
Outside	50.604688	-1.738907	589239	5606625
NW 1	50.59683	-1.724217	590293	5605769
NW 2	50.59619	-1.723408	590352	5605699
SW 1	50.57971	-1.72063	590580	5603870
SW 2	50.580756	-1.71571	590926	5603992
SW 3	50.578573	-1.715956	590913	5603749
SE 1	50.579756	-1.69241	592578	5603910
SE 2	50.580208	-1.69092	592682	5603962

- 4.1.3 Based on the current assessment a single Archaeological Exclusion Zone is recommended, surrounding anomaly **S12**, the wreck of the *Venezuela* (**Figure 1**). The Archaeological Exclusion Zone consists of a 50m buffer around the extents of the wreck as seen in the geophysical data.
- 4.1.4 Seven anomalies were discriminated as A2: of uncertain origin of possible archaeological interest. No exclusion zones are recommended but their positions should be noted, particularly those within the proposed new licence area.
- 4.1.5 Should items of possible or known archaeological interest be recovered during dredging operations these should be reported through the Marine Aggregate Industry Protocol for Reporting Finds of Archaeological Interest (BMAPA and EH 2005).

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## APPENDIX I: GAZETTEER OF ASSESSED ANOMALIES

Titan Interpretation					Wessex Archaeology Interpretation		
ID	Easting	Northing	Dimensions	Comments	Classification	Archaeological Discrimination	Description
S3	590051.0	5606311.1	2.0m(l)x0.2m(w)x0.2m(h)		Dark reflector	U1	Small object with height (1.4x0.1x0.2m). Possible rock.
S4	590053.4	5606350.5	1.7m(l)x0.5m(w)x2.0m(h)		Dark reflector	A2	Indistinct blocky feature with height (2.1x1.6x0.8m). May be debris. No similar features nearby.
S12	590378.0	5605711.6	62.2m(l)x12.1m(w)x0.0m(h)	Wreck of the <i>Venezuela</i>	Wreck	A1	Wreck orientated NW/SE. Together with adjacent debris it measures 66.4x19.2x2.4m. Lying upright, mostly intact with no outlying debris and partially buried. Scour around NW end where the end of the wreck appears possibly to be broken off and/or buried. The northern end appears partially buried and with some debris adjacent. More broken up at this end. Part of wreck obscured by shadow. Some structure visible. UKHO number 19018.
S19	589728.9	5605081.4	1.1m(l)x0.8m(w)x1.0m(h)		Dark reflector	A2	Isolated elongated object with height (1.7x0.6x1.2m). May be debris.
S23	592598.4	5603938.4	4.5m(l)x1.3m(w)x1.6m(h)		Dark reflector	A2	Indistinct, possibly angular object (2.4x1.7x1.6m). Possible debris. Has height. Surrounded by an area of seafloor disturbance seen in the sidescan sonar data (8.0x7.2x0.0m). In the bathymetry data there is a large depression at this location (19x10x0.2m). S117 lies close by.



Titan Interpretation					Wessex Archaeology Interpretation		
ID	Easting	Northing	Dimensions	Comments	Classification	Archaeological Discrimination	Description
S24	592452.6	5603892.1	1.4m(l)x0.3m(w)x0.4m(h)		Dark reflector	U1	Small indistinct object with height (1.9x0.4x0.4m). Possible rock.
S27	592449.5	5603665.4	1.4m(l)x0.4m(w)x0.2m(h)		Dark reflector	U1	Very small indistinct feature with height (0.6x0.3x0.2m). Probable rock. Lies adjacent to similar feature S28. Other similar features are seen nearby.
S28	592447.8	5603663.4	2.4m(l)x1.4m(w)x0.5m(h)		Dark reflector	U1	Very small object with height (0.7x0.2x0.1m). Probable rock. Lies adjacent to similar feature S27. Other similar features are seen nearby.
S32	592209.0	5603571.9	0.9m(l)x0.2m(w)x0.1m(h)		Dark reflector	U1	Elongated feature with height (1.6x0.1x0.1m). Likely to be natural. Occurs where there is a slight change in seabed morphology.
S47	592948.0	5603470.1	1.6m(l)x0.6m(w)x0.5m(h)		Dark reflector	U1	Indistinct, possibly elongate feature with height (2.2x0.4x0.3m). May be a rock.
S72	590750.4	5605597.7	1.8m(l)x0.3m(w)x0.5m(h)		-	-	Not seen
S73	590760.1	5605577.5	2.0m(l)x0.3m(w)x0.4m(h)		-	-	Not seen
S76	589596.5	5604359.9	2.2m(l)x0.4m(w)x0.3m(h)		Dark reflector	U1	Slightly elongate feature with height (1.4x0.2x0.4m). Surrounded by several similar, albeit smaller, features, including S77.
S77	589584.8	5604361.4	1.0m(l)x0.3m(w)x0.3m(h)		Dark reflector	U1	Very small object with height (0.5x0.3x0.2m). Probable rock. Similar features nearby, including S76.
S78	589627.3	5604258.2	1.9m(l)x0.5m(w)x0.4m(h)		Dark reflector	U1	Indistinct feature with height (1.8x0.7x0.3m). Probably natural. Close to similar feature S79.
S79	589636.3	5604261.7	1.5m(l)x0.9m(w)x0.4m(h)		Bright reflector	U1	Possible this may be a shadow of a very indistinct object. Irregular shaped feature (4.4x0.9x0.0m). Probably natural. Close to S78.



Titan Interpretation					Wessex Archaeology Interpretation		
ID	Easting	Northing	Dimensions	Comments	Classification	Archaeological Discrimination	Description
S81	589729.6	5604189.4	3.5m(l)x1.0m(w)x0.3m(h)		Bright reflector	U1	Small and indistinct feature (1.5x1.2x0.0m). May be a shadow but no visible object. Similar features nearby. Likely to be natural.
S85	589909.8	5604046.8	2.4m(l)x0.6m(w)x0.3m(h)		Dark reflector	U1	Small object with height (1.0x0.3x0.3m). Probable rock. Several similar features nearby, including S89.
S86	589815.3	5604128.8	1.8m(l)x1.3m(w)x0.6m(h)		Dark reflector	U1	Small object with height (0.8x0.5x0.6m). Probable rock. Similar features nearby.
S89	589816.2	5604010.4	2.5m(l)x0.7m(w)x0.6m(h)		Dark reflector	U1	Indistinct irregular object with height (1.9x0.9x0.5m). May be natural. Several similar features nearby, including S85.
S90	589868.9	5604064.4	2.6m(l)x0.4m(w)x0.1m(h)		Dark reflector	U1	Small rounded object with height (1.5x0.5x0.2m). Probable rock. Similar features nearby.
S91	590140.1	5604059.2	3.8m(l)x0.6m(w)x0.4m(h)		Dark reflector	U1	Very small object with height (0.8x0.4x0.6m). Indistinct. Probable rock.
S93	590130.0	5604053.0	2.7m(l)x0.5m(w)x0.4m(h)		Dark reflector	U1	Indistinct very small object with height (0.8x0.7x0.4m). Probably natural. Lies close to similar feature S94.
S94	590132.5	5604054.2	0.3m(l)x0.4m(w)x0.5m(h)		Dark reflector	U1	Very small object with height (0.4x0.2x0.5m). Probable rock. Lies next to similar feature S93.
S95	590789.8	5604245.2	1.9m(l)x1.4m(w)x0.5m(h)		Bright reflector	U1	Looks like a shadow (9.4x1.8x0.0m) but no object visible. Possibly stretched data resulting in an overestimate of length. Lies close to similar feature S96.
S96	590781.7	5604242.9	2.3m(l)x0.6m(w)x0.5m(h)		Bright reflector	U1	Possible shadow (5.4x2.0x0.0m) but no object seen. Situated close to similar feature S95.



Titan Interpretation					Wessex Archaeology Interpretation		
ID	Easting	Northing	Dimensions	Comments	Classification	Archaeological Discrimination	Description
S97	592108.5	5604593.6	0.7m(l)x0.9m(w)x0.8m(h)		Dark reflector	U1	Indistinct feature with height (1.2x1.0x0.8m). Possible rock.
S98	591113.9	5604195.4	1.2m(l)x0.3m(w)x0.3m(h)		Dark reflector	U1	Elongate feature with height (2.0x0.5x0.3m). Possibly natural. May consist of several small objects close together.
S99	592283.3	5604573.8	2.5m(l)x0.7m(w)x0.6m(h)		Dark reflector	U1	Angular or rounded feature with height (1.5x1.0x0.7m). Possible rock. Seabed looks possibly disturbed in this area but probably naturally so as several other areas in the vicinity have a similar appearance. Similar features, including S100, lie near by. This feature appears to be the same as S102, just tagged in the adjacent line.
S100	592277.7	5604566.7	3.0m(l)x1.3m(w)x0.3m(h)		Dark reflector	U1	Two very small objects with height (1.5x0.6x0.2m and 1.3x0.7x0.2m) next to each other. Total dimensions 3.7x0.7x0.2m. Probable rocks. They lie close to similar features S99 and S102.
S102	592267.7	5604564.3	2.4m(l)x0.6m(w)x1.0m(h)		Dark reflector	U1	Small object with height (1.0x0.4x0.7m). Probable rock. Appears to be the same feature as S99, just tagged in the adjacent line.
S103	591910.1	5604316.4	2.1m(l)x0.6m(w)x0.1m(h)		Dark reflector	U1	Faint linear dark reflector (2.2x0.2x0.2m). Probably natural.
S107	592558.9	5604156.8	2.6m(l)x0.9m(w)x1.2m(h)		Dark reflector	A2	Isolated rounded or blocky object with height (3.7x2.0x1.3m).

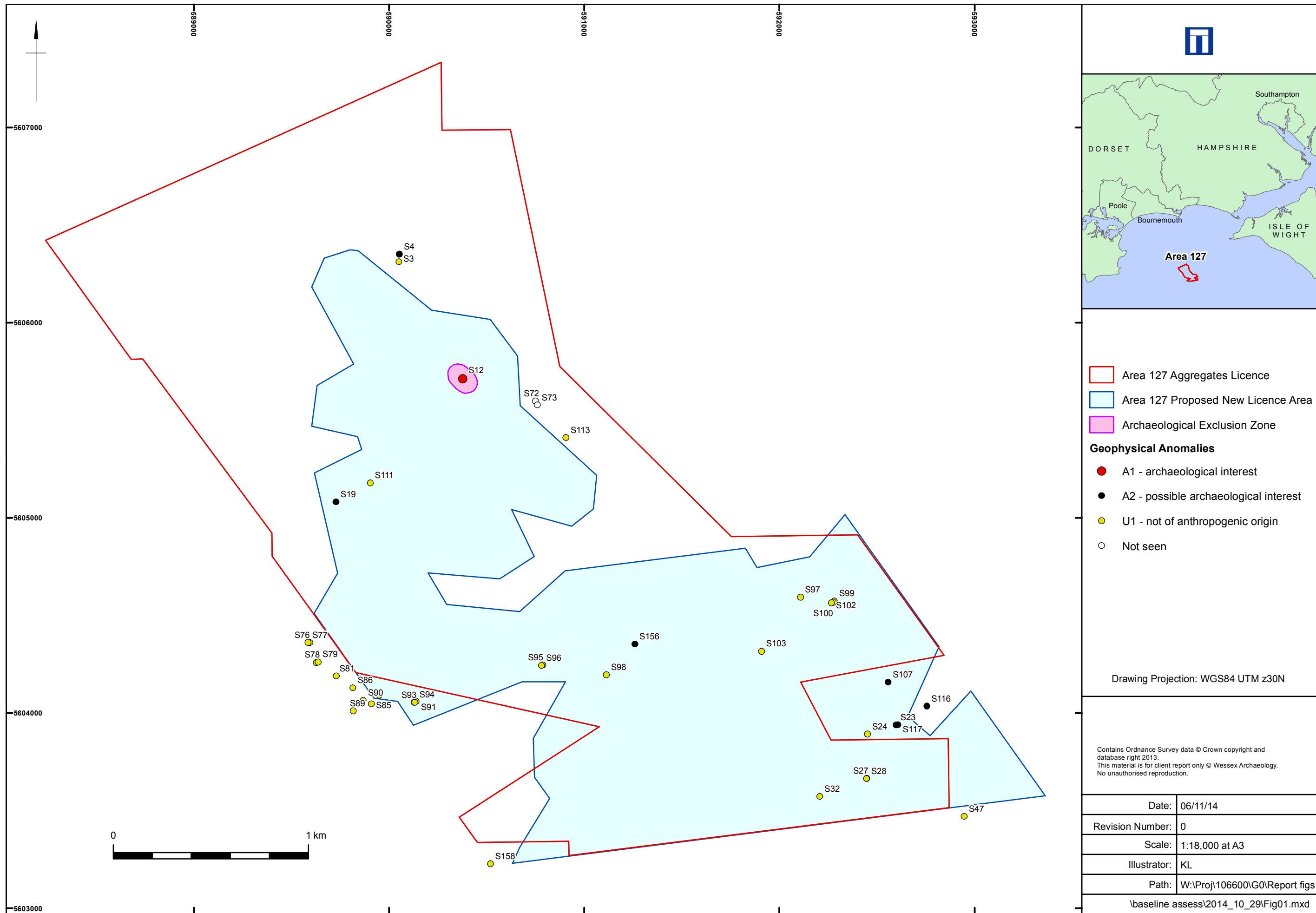




Titan Interpretation					Wessex Archaeology Interpretation		
ID	Easting	Northing	Dimensions	Comments	Classification	Archaeological Discrimination	Description
<b>S111</b>	589905.0	5605177.9	3.8m(l)x0.0m(w)x0.4m(h)	Linear Object	Dark reflector	U1	Elongate feature (1.5x0.3x0.3m) next to very small feature (0.6x0.2x0.2m). Possibly rocks. Similar features nearby.
<b>S113</b>	590906.6	5605410.2	Longest Axis 13.3m	Debris Field	Debris field	U1	Group (13.5x7.3x0.0m) of 5 small objects. Largest measures 0.9x0.4x0.6m. Probable rocks. Similar individual features nearby and throughout the assessment area.
<b>S116</b>	592756.3	5604034.9	5.4m(l)x0.0m(w)x0.7m(h)	Linear Object	Dark reflector	A2	Isolated linear feature with height (3.4x0.6x0.6m). Indistinct and with height. Possible debris.
<b>S117</b>	592609.6	5603939.7	6.4m(l)x0.0m(w)x0.1m(h)	Linear Object	Debris	A2	Linear dark reflector with a small amount of height (5.8x0.4x0.1m). Lies close to S23.
<b>S151</b>	589948.8	5604091.2	Longest Axis 78.3m	Debris Field	Debris field	U1	C-shaped area (72.1x29.9x0.0m) containing groups of small objects with height and areas of disturbed seafloor. Probably natural. Similar small objects with height are seen nearby, probably rocks.
<b>S156</b>	591260.2	5604353.1	5.1m(l)x0m(w)x0.1m(h)	Linear Object	Dark reflector	A2	Isolated linear feature with height (3.9x0.3x0.1m). Possible debris.
<b>S158</b>	590520.8	5603227.2	Longest Axis 139.7m	Debris Field	Debris field	U1	Scatter of small objects with height (124.0x30.7x0.0m). Probably rocks. Similar individual features are seen nearby and throughout the assessment area.

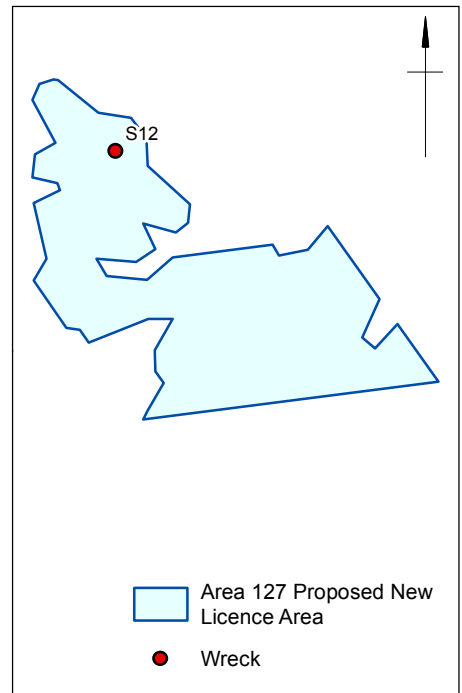
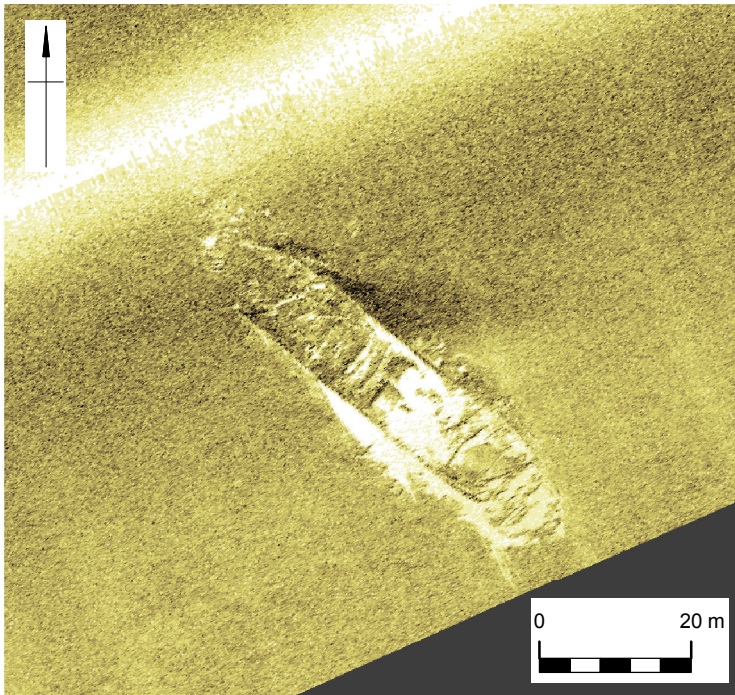
**Notes**

1. All coordinates are given in UTM30N
2. Rows highlighted in grey are the eight features of known or possible archaeological interest

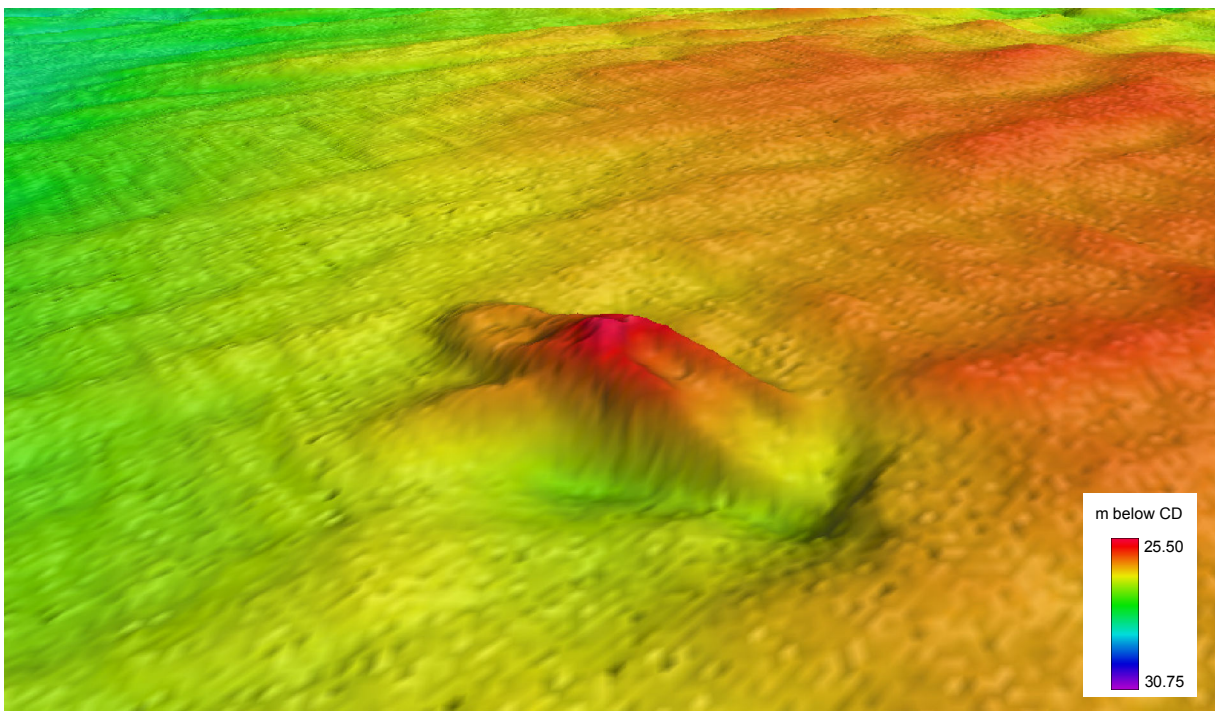


Area 127 Geophysical Anomalies and Archaeological Exclusion Zone

Figure 1



Sidescan sonar mosaic image of the wreck of the *Venezuela*  
(66.4m x 19.2m x 2.4m)



Oblique view of the wreck of the *Venezuela* in the multibeam bathymetry data. View direction: south.  
Vertical exaggeration: x6



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Date: 29/10/2014

Revision Number: 0

Scale: See above

Illustrator: KL

Path: W:\Projects\106600\G0\Report figs\baseline assess\2014\_10\_29\Fig02.mxd



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