



Archaeological Services in Relation to Marine Protection

The Shipwreck Project Site 'Alexander' Weymouth

Undesignated Site Assessment



Ref: 108280.29
November 2016



Archaeological Services in Relation to Marine Protection

The Shipwreck Project Site '*Alexander*' Weymouth

Undesignated Site Assessment

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The Shipwreck Project Site 'Alexander' Weymouth

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Summary

Wessex Archaeology was commissioned by Historic England to undertake an undesignated site assessment of an unidentified wreck site off Chesil Beach, Dorset, named by The Shipwreck Project as the 'Alexander'.

Following on from a joint project in 2015, Wessex Archaeology worked with The Shipwreck Project, a Weymouth-based community interest partnership, to carry out the assessment. The site was originally brought to the attention of Historic England by The Shipwreck Project who provided Wessex Archaeology with geophysical and other data, together with vessel service on board *Wey Chieftain IV*. The Shipwreck Project played an integral role in the assessment, providing accurate local knowledge of the wreck site, information on previous research as well as loaning finds they had previously discovered to Wessex Archaeology for specialist assessment.

The site lies in around 23 m of water (LAT) approximately 400 m from Chesil Beach on a seabed of sand and gravel. The site consists of three heavily concreted cannons and other ferrous material such as mortar balls and keel ballast blocks. The date of the site is likely to be between the early 18th century and the mid-19th century. The identity of the vessel remains unknown and the theory that it is the East Indiamen 'Alexander' cannot be discounted.

Six dives were undertaken on the site between 22 and 25 July and on 11 October 2016. The key features on the site were recorded using the following methods: positioning using diver tracking; measuring with tape measures; and still and video photography.

Assessing the site using the Historic England methodology suggests that it is at low risk.

The wreck material is of archaeological interest; however, it is the opinion of Wessex Archaeology that the site does not meet the non-statutory criteria for Designation. Consequently, no formal management is recommended, although Historic England may seek to encourage the continued investigation of the site by The Shipwreck Project.



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Acknowledgements

Wessex Archaeology was commissioned by Historic England to undertake an Undesignated Site Assessment on the 'Alexander' wreck, Weymouth. The assistance provided by Alison James, Mark Dunkley, Hefin Meara, and Serena Cant is gratefully acknowledged.

A number of published sources were consulted during this investigation, and Wessex Archaeology is also grateful to the authors, as listed in the Reference section. Wessex Archaeology is also grateful for the information and assistance provided by the following:

- *The members of The Shipwreck Project Grahame Knott and Richard Bright-Paul for providing a wealth of information on the wreck site and their assistance during diving operations on board Wey Chieftain IV, and their invaluable local knowledge;*
- *Thanks also is due to local researchers David Carter, Ed Cummings and the staff of the Portland Museum and Weymouth Museum; and*
- *Ashley Coutu of York and Cape Town University, Dr. Tamsin O'Connell and Catherine Kneale of the University of Cambridge and Dr. Christina Fisher of the Natural History Museum for helping with the identification of the ivory tusks.*

The assessment was carried out by a Wessex Archaeology team comprising the following:

- *Toby Gane, project management;*
- *Graham Scott, diving supervision and archaeological diving;*
- *Madeline Fowler and Tom Harrison, archaeological diving;*
- *Paolo Croce, project officer, diving supervision, archaeological diving and reporting;*
- *Richard Milwain, GIS and data searches;*
- *Kitty Foster, illustration;*
- *Peta Knott, liaising with The Shipwreck Project; and*
- *Megan Metcalfe geophysics assessment.*



The Shipwreck Project Site 'Alexander' Weymouth

Undesignated Site Assessment

1 INTRODUCTION

1.1 Assessment Background

- 1.1.1 Wessex Archaeology was commissioned by Historic England to undertake an Undesignated Site Assessment of an unidentified wreck site off Chesil Beach, Dorset, named by The Shipwreck Project as the 'Alexander' (**Figure 1**). The work was undertaken as part of the Archaeological Services in Relation to Marine Protection (Diving) contract 2015-2017.
- 1.1.2 The exact date of the discovery of the site is not known. The site has been periodically dived since 2013 by The Shipwreck Project team, but sites in the proximity of the remains have been previously investigated by members of the LUNAR Society (Land & Underwater Nautical Archaeological Research) of Weymouth during the last 10-20 years. Although the site remains unidentified, The Shipwreck Project team speculates that the wreck might be part of the remains of an East Indiaman sunk on Chesil Beach in 1815 named *Alexander*. Members of the LUNAR Society researched the history of *Alexander*, which is available online (<http://www.weymouthlunarsociety.org.uk/alexander.htm> accessed on 19/10/2016).
- 1.1.3 The association of the remains to *Alexander* is purely speculative. However, the proposal is due to the discovery of several elephant tusks found near to the site over the last 15-20 years. The tusks are now dispersed amongst local museums and private collectors.
- 1.1.4 The project was carried out with The Shipwreck Project, a not-for-profit partnership with a focus on research into the region's maritime history, to continue the collaborative working partnership established between Historic England, The Shipwreck Project and Wessex Archaeology in previous years. Data generated prior to, and during, the assessment has been shared.
- 1.1.5 A written brief and agreed scope of work provided by Historic England (2016) guided the diving assessment.

2 ASSESSMENT AIMS AND OBJECTIVES

- 2.1.1 The overall aim of the project was to undertake an Undesignated Site Assessment. Detailed primary and secondary objectives were specified in the Client Brief (Historic England 2016), as follows:

2.2 Primary Objectives

- *Contact The Shipwreck Project, finders of the site, to assist with the identification of the site's location and participate in the undesignated site assessment including the possibility of access to their geophysical data;*

- *Undertake a data audit comprising documentary research on each site as appropriate, to inform designation assessment. Alison James can provide copies of all information in the National Record of the Historic Environment (NRHE);*
- *Contact the Receiver of Wreck and Historic England to gain a list of droits relating to the site;*
- *Undertake assessment of any finds held by The Shipwreck Project;*
- *Undertake a diver survey of the exposed remains. Confirm position, extent, stability and character (plotted by tracked diver survey) of the site;*
- *Locate and accurately position (plotted by tracked diver survey and probing where appropriate) any additional visual archaeological material;*
- *Undertake a diver survey to ground truth anomalies identified from any geophysical data provided by The Shipwreck Project team (using tracked diver survey, probing and augering as appropriate);*
- *In agreement with Historic England, and if considered appropriate, accurately position and recover samples suitable for dendrochronological analysis if suitable timbers are exposed according to the brief protocols issued by the HE Scientific Dating Team (Annex A of the HE brief), and deliver them to Historic England on completion of site visit for further analysis to be coordinated by the HE Scientific Dating Team;*
- *Produce a structured record of field observations; preferably including a photographic record of the site as free from fauna as possible and a basic site plan. Key artefacts are to be subject to detailed examination and recording (position by tracked diver survey, taped measurements, photographs and video and written database entries). Undertake the collection of appropriate bed level pH values; and*
- *Review the site against the non-statutory criteria for Designation under the Protection of Wrecks Act 1973.*

2.3 Secondary Objectives

- *If possible (and without excavation) assess the likely depth of deposit on the sites estimated by reference to the angle of any frames and the height of any ballast/cargo/artefact mound material;*
- *Supplement the recording of the core of the site by recording profiles across the main axis of the site; and*
- *Undertake second stage documentary research and a comparison of the site with any documentary evidence on the site as appropriate, to inform designation assessment.*

2.3.1 The recording level set in the Brief was Level 3a, whereby a diagnostic record is generated comprising 'a detailed record of selected elements of the site'.

2.3.2 The following products were specified in the Brief; this document is P2.

- *P1 – Archaeological Report (suitable for public release);*
- *P2 – Undesignated Site Assessment (confidential);*
- *P3 – Project archive/s compiled in accordance with current accepted standards; and*
- *P4 – Finds should also be logged appropriately with the Receiver of Wreck.*



3 METHODOLOGY

3.1.1 All fieldwork procedures and standards complied with the relevant guidance by the Chartered Institute for Archaeologists (CIfA; website accessed June 2015).

3.2 Data Audit

3.2.1 A limited audit of existing primary and secondary sources relevant to the site location has been undertaken, however this does not amount to a full desk-based assessment.

3.2.2 The following sources were also consulted:

- *National Record of the Historic Environment (NRHE)*;
- *United Kingdom Hydrographic Office (UKHO)*;
- *Dorset Historic Environment Record (HER)*;
- *Receiver of Wreck (data not yet received at the time of writing)*;
- *Geophysical data from The Shipwreck Project*;
- *Photographs and video from The Shipwreck Project*; and
- *The Portland Shipwreck and Maritime Accident Directory*.

3.2.3 At the time the site was reported for further investigation to Historic England, The Shipwreck Project had already carried out a diver investigation of the site and had located three guns, an anchor and several mortar balls with iron T-shaped blocks. The Shipwreck Project had also carried out a sidescan sonar survey in 2008. All the data obtained from The Shipwreck Project, including photographs and videos, were reviewed by Wessex Archaeology in order to inform the diving survey. The review resulted in the first sketch plan of the site.

3.2.4 Efforts were made to locate and record the finds that are said to have been recovered from the wreck in the past decades. Inquiries were made to local museum and dive clubs in order to record the material recovered from the area of the site during the previous years. This resulted in a visit to the Weymouth Museum, Portland Museum and Underwater Explorers diving centre.

3.2.5 The Weymouth Museum has a cabinet dedicated to the East Indiamen *Alexander*, together with a selection of elephant tusks recovered off Chesil Beach; the Portland Museum has an elephant tusk and some material from other sites possibly associated with *Alexander*.

3.2.6 The artefacts recovered from the site by the members of The Shipwreck Project were loaned to Wessex Archaeology and recorded.

Location Data

3.2.7 The coordinates of the site were provided by The Shipwreck Project.

Documentary Data

3.2.8 In order to inform the diving survey, pre-fieldwork research was made on *Alexander* and the East India Company (EIC) vessels of the early 19th century more generally. *Alexander* (NHRE 1144791) was highlighted by The Shipwreck Project as a potential candidate for the identification of the remains.

- 3.2.9 *Alexander* was an East Indiamen of 746 tons, lost off the coast of Portland on 27 March 1815 on its return voyage from the Indian port of Bombay (now called Mumbai) (Phipps 1840). The ship was laden with cotton, coffee and sugar.
- 3.2.10 Information on the wrecking event and on the vessel are very scarce and almost limited to the account of the loss provided by the newspapers of the time: "A report from Weymouth read as follows: 'It has blown a hard gale of wind the whole of yesterday and last night; from the SSW, and it is with heartfelt regret that I inform you of the loss of the *Alexander* East Indiamen, from Bombay for London; she was thrown on shore, on the beach, two miles west of Portland, and I am sorry to add that the captain, crew and passengers are lost, except four lascars and a woman. The ship is gone to pieces and very little of her cargo can be saved' (Times, 29 March 1815 – from Grocott 1997). The approximately 150 persons on board are remembered in a commemorative stone tablet dedicated by C. Forbes, owner of the ship, in the church of Wyke Regis and some of the names are sparsely published in obituaries of the time (Longman 1817). A complete list of passengers can be found in the *Bombay Courier* of 22 October 1814.
- 3.2.11 In the Dorchester and Sherborne Journal of 19 May 1815 there is an advertisement of an auction of material recovered from the "wreck of the *Alexander* East Indiamen, lately stranded upon Portland Beach" held by T. Tindall at Mr. Weston's stores. The sale included: "103 bales of cotton, from Bombay, damaged; 5 cases of Gum Benjamin, 2 Pipes and 1 Hogshead of Madeira Wine, 1 cast of pitch".
- 3.2.12 The ship is defined as a 'country ship' by the Gentleman's Magazine or Monthly Intelligencer of 1815 and an 'extra ship' by The Scots Magazine, or, General Repository of Literature, History, and Politics, Volume 77 (Nichols 1815; Chapman 1815). *Country* ships were privately-owned vessels that operated west of the Cape of Good Hope under license of the EIC and were forbidden to sail west of the Cape of Good Hope unless taken into service by the company as *extra* ships to England hired as troop transports or sometimes temporarily converted into men of war (Bulley 2013).
- 3.2.13 A model of an *extra* ship similar in size to *Alexander* is visible in the collections of the Merseyside Maritime Museum and published by MacGregor (1980: 200). The model dates to c. 1820.
- 3.2.14 Documentary records suggest that ships constructed at Bombay were often entirely built in teak and were entirely secured by copper or iron fastenings. These particular ships were considered to be vessels of the first class and superior in material and construction to the ones built in Britain (Allen 1819).
- 3.2.15 A well-researched webpage containing a considerable amount of information about the East Indiaman *Alexander* is available online at the website of the LUNAR Society of Weymouth (<http://www.weymouthlunarsociety.org.uk/alexander.htm> accessed on 25/10/2016).
- 3.2.16 Research in contemporary local newspapers was carried out via the British Newspaper Archive looking for information concerning vessels wrecked on Chesil Beach or Portland and carrying elephant tusks, cannonballs and scrap metal.

Previous Finds

- 3.2.17 Before the start of the diving operation, meetings were held with Grahame Knott and Richard Bright-Paul of The Shipwreck Project and data regarding the site was accessed. The data includes sidescan sonar data, videos and photographs of previous dives of the members of The Shipwreck Project. The dives dated to 20-21 July 2013, 2 June 2014, 26 November 2015 and 6 and 8 June 2016.

- 3.2.18 At least three cannons were reported to be on site by The Shipwreck Project, with the latest cannon (**WA2008**) being discovered in June 2016. The presence of a possible fourth cannon on site had been expressed by a diver to The Shipwreck Project member, Richard Bright-Paul. However, neither The Shipwreck Project nor Wessex Archaeology has 're-located' this cannon at present.
- 3.2.19 Several round-shot are also documented in the site. The photographic evidence made available by The Shipwreck Project team confirmed the presence of groups of at least three large shot (**WA2003**, **WA2004** and **WA2012**) and two individual large iron shot on site (**WA2007** and **WA2013**). All these round-shot were said to be for mortars.
- 3.2.20 Photographs of an iron mortar shot (**WA2010**) that was previously recovered from the site were made available by Grahame Knott. The shot, cleared from the original concretion, reportedly measures 275 mm in diameter and weighs 57 kg. The fuse hole diameter is 44.5 mm and the lifting eyes are still visible at its sides. The iron shot was described as empty (making it a mortar shell) and the thickness of the iron is 50.8 mm, the casting mould seam passes across the lifting eyes and the fuse hole. At 90 degrees to the mould seam the sprue hole of the mould is visible.
- 3.2.21 Wessex Archaeology was able to trace three mortar bombs that are believed to have been recovered from the site and these are now stored separately at the Portland Museum, the Royal Armouries and the Underwater Explorers diving centre (pers. comm. Grahame Knott and David Carter).
- 3.2.22 On Thursday 21 June, Underwater Explorers provided access to Wessex Archaeology to record the mortar shell displayed at their facilities, located at the Maritime Business Centre of Portland (**WA2044 – Plate 6c**). The shell diameter is 287 mm, the walls measured at the fuse hole are 47 mm thick and the diameter of the fuse hole is 37 mm. The shell was reported as still retaining the wooden plug and containing black powder at the time of the recovery (pers. comm. Grahame Knott). It is worth noting that above the shell there is a sign made by members of the LUNAR Society that provides detailed information on the object.
- 3.2.23 The Portland Museum was visited during fieldwork and it was confirmed that they have a similar mortar in their collection. The provenance of the mortar is confirmed as being that of the *Alexander* site (pers. comm. David Carter). A third mortar recovered from the site was donated to the Museum of Naval Firepower in Portsmouth and allegedly contained black powder when recovered.
- 3.2.24 A number of elephant tusks are known to have been recovered from the area and these are dispersed amongst private collectors and local museums. The exact number of tusks recovered is unknown but Grahame Knott from The Shipwreck Project estimates that over the years between 20 and 30 ivory tusks have come from this area. Anecdotal evidence suggests that at least some of the elephant tusks were recovered from an area that is approximately 800 m SW of the site, and a copper pin (**WA2019 – Plate 6b**) and further elephant tusks were recovered from positions NW of the site.
- 3.2.25 A tusk (**WA2005**) was obtained for detailed recording during the fieldwork (**WA2005 – Plate 6a**). The artefact had been previously recovered by The Shipwreck Project and was declared to the Receiver of Wreck. Photographs of the tusk were sent to a specialist of the Natural History Museum, Cromwell Road, London, who identified it as the tusk of an adult elephant, either an Asian or African savannah elephant, but probably not an African forest elephant (pers. comm. Dr Christina Fisher).

- 3.2.26 Another tusk is on display at Portland Museum and a further four tusks of different dimensions, apparently all recovered from the area of the *Alexander* wreck, are in the collection of the Weymouth Museum.
- 3.2.27 The Weymouth Museum at Brewers Quay has a collection of artefacts that were supposedly recovered from the *Alexander* wreck site during the last fifty years. Items recovered from *Alexander* that are on display include a deadeye, a pulley, coffee beans (indicated as a part of the cargo), ivory cutlery handles, cut lead glass ink bottle, a sailor's fid for splicing rope, earthenware food containers, some EIC '10 cash' coins, a medicine vial and liquor storage bottles. After a close examination of the artefacts and a discussion with the personnel of the Museum, it became apparent that the display was intended as a reproduction of the cargo material of an EIC ship of the 19th century and the artefacts came from different sources and had not necessarily been recovered from the site. The four elephant tusks on display are said to come from "*wrecks off the Chesil Beach not far from Ferry Bridge possibly as cargo of 'Alexander'*".
- 3.2.28 Other finds that were reportedly recovered from the general area around the site include a large fragment of a copper cauldron and two copper pots. The large fragment of a copper cauldron is currently stored at Underwater Explorers in Portland and Grahame Knott indicated that the piece was found decades ago. The exact position of the discovery and circumstances of recovery are unknown so it is not clear whether the find was part of a larger assemblage or is an isolated find.
- 3.2.29 Two small copper pots displayed at Portland Museum, which allegedly come from the '*Lyme Bay Mortar Site*' – an 18th century wooden sailing ship reported to be in West Bay – were also said to have been recovered from the area where the mortar balls were found (pers. comm. David Carter). It appears that the two copper pots were found half buried within 5 m of a wooden wreck structure. A photograph of the woodwork was taken by Mike Pitts at the time of discovery but allegedly the remains disappeared back into the sand and have not been relocated since. The photograph is still on display at the Portland Museum but Wessex Archaeology was informed that it was partly staged with one of the copper pots and some marine fauna relocated for the occasion. Nonetheless the picture shows a small section of outer hull and three frames. The frames seem to be relatively substantial and regularly spaced, the sided dimension larger than the moulded one. A possible lap scarf is visible in the background. Possible treenails are visible on the upper face and two strakes of planking are still attached to the frames. In the photograph the wreckage is rigged for recovery with a steel D-ring and a line with a float attached.
- 3.2.30 An iron mast cap with two holes, one circular and the other squared, and of approximate dimensions of 700 mm by 400 mm, was also reported to have been seen exposed in the sand in the same circumstances. From a photograph made available to Wessex Archaeology, this feature is clearly an iron mast cap. The fact that the mast cap has one squared interior would suggest a wooden topmast rather than an iron one.
- 3.2.31 The Dorset HER holds records that might be relevant to the site. This includes two bronze pintles recovered approximately 400 m W of the site (9000 1372 – MWX2675 – RoW droit 269/02), two elephant tusks recovered from near the frequency buoy found approximately 1.2 nautical miles N of the site (9000 1410 – MWX4534) and a timber and a rigging block trawled up offshore between Chesil Cove and Fleet Manor (9000 1424 – MWX4562) (**Figure 1**).

3.3 Geophysical Survey

3.3.1 Sidescan sonar data were acquired by The Shipwreck Project. Data were supplied in both CMP and XTF format with the laybacks already applied. Data were acquired at a range of 35 m at a frequency of around 800 kHz using a C-Max sonar fish.

3.3.2 Bathymetric data were downloaded from the UKHO INSPIRE website. These data are made available under the terms of the Open Government License, in compliance with the 'Infrastructure for Spatial Information in Europe' (INSPIRE) initiative. The data were originally acquired by Fugro OSAE on behalf of the Channel Coast Observatory for the DORIS (Dorset Integrated Seabed Survey) project on the *MV Meridian*. The survey commenced on 4 July 2008 and the data were supplied as GSF files.

Data Quality

3.3.3 Each geophysical dataset was assessed for quality and rated using the following criteria listed in **Table 1**.

Table 1: Criteria for assigning data quality rating

Data Quality	Description
Good	Data which are clear and unaffected by weather conditions or sea state. The dataset is suitable for the interpretation of standing and partially buried metal wrecks and their character and associated debris field. These data also provide the highest chance of identifying wooden wrecks and debris.
Average	Data which are affected by weather conditions and sea state to a slight or moderate degree. The dataset is suitable for the identification and partial interpretation of standing and partially buried metal wrecks, and the larger elements of their debris fields. Wooden wrecks may be visible in the data, but their identification as such is likely to be difficult.
Variable	This category contains datasets with the quality of individual lines ranging from good to average to below average. The dataset is suitable for the identification of standing and some partially buried metal wrecks. Detailed interpretation of the wrecks and debris field is likely to be problematic. Wooden wrecks are unlikely to be identified.

3.3.4 The sidescan sonar data have been rated as 'Good' using the above criteria. In general, the data quality is good, with data acquired to the full extent of the range used, features clearly imaged, and very little weather noise visible.

3.3.5 The multibeam bathymetry data have been rated as 'Good' using the above criteria. The data quality and resolution of 0.5 m was found to be of a high standard and suitable for the archaeological assessment of seabed objects and debris.

Data Processing

3.3.6 The sidescan sonar data were processed by Wessex Archaeology using Coda GeoSurvey software. This allowed the data to be replayed with various gain settings in order to optimise the quality of the images. The data were interpreted for any objects of possible anthropogenic origin. This involves creating a database of anomalies within Coda by tagging individual features of possible archaeological potential, recording their positions and dimensions, and acquiring an image of each anomaly for future reference.

3.3.7 A mosaic of the sidescan sonar data is produced during this process, and the survey line smoothed to assess the quality of the sonar towfish positioning. This allows the position of anomalies to be checked and for the layback values to be refined if necessary.



- 3.3.8 The form, size, and/or extent of an anomaly is a guide to its potential to be an anthropogenic feature, and therefore of its potential archaeological interest. A single, small, but prominent anomaly may be part of a much more extensive feature that is largely buried. Similarly, a scatter of minor anomalies may define the edges of a buried but intact feature, or it may be all that remains of a feature as a result of past impacts from, for example, dredging or fishing.
- 3.3.9 The multibeam bathymetry data were analysed to identify any unusual seabed structures that could be part of the shipwreck or other anthropogenic debris. The data were gridded and analysed using Fledermaus software, which enables a 3D visualisation of the acquired data and geo-picking of seabed anomalies.

Anomaly Grouping and Discrimination

- 3.3.10 Once all the geophysical anomalies and desk-based information 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. For anomalies located on the seabed, these flags are ascribed as follows:

Table 2: Criteria for discriminating archaeological importance of features

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 with no corresponding geophysical anomaly

Geophysical Description

- 3.3.11 An area of possible debris was identified at the given location of the *Alexander* wreck site (**7000**). This area extends 57 to 38 m and is seen on the sidescan sonar data as an area of dark reflectors with heights of up to 0.5 m (**7001, 7002, 7008-7010**) and some bright reflectors (**7011**). Some of these objects are quite distinct and appear to be relatively straight with broad shadows (**7009, 7010**). Water depth at the given location of the *Alexander* wreck is -20.5 m LAT.
- 3.3.12 An area of bright reflector was identified approximately 300 m SE of the *Alexander* wreck site (**7014**). This is an irregularly shaped area with some darker reflectors around its boundary. This is possibly a natural formation however it looks anomalous to the surrounding sediment. There are several dark reflectors surrounding this area (**7012, 7013, 7018-7020**), including anomaly **7012** which is fairly narrow but with a broad shadow, and **7020** which appears to be slightly angular with a broad, irregular shadow. Water depth at anomaly **7014** is -17.3 m LAT.
- 3.3.13 Three bright reflectors (**7004-7006**) are seen approximately 230 m WNW of the given position for the *Alexander* wreck. Anomalies **7005** and **7006** are quite straight and narrow, whereas anomaly **7004** is slightly more rectangular. There is also a dark reflector with a distinct tapered shadow (**7007**). It is possible that this is a natural feature, however it has been tagged due to its proximity to the other bright reflectors. Water depth at these anomalies is -22.3 m LAT.

- 3.3.14 Three small dark reflectors with relatively broad shadows are seen approximately 160 m NW of the given location of the *Alexander* wreck site (**7015-7017**), which could potentially be debris related to the *Alexander* wreck. Water depth at these anomalies is -19.7 m LAT.
- 3.3.15 The surrounding seabed appears to be relatively flat, shoaling towards the northeast, with water depths in the surrounding area ranging from approximately -24 m LAT in the SW to -12 m LAT in the NE.
- 3.3.16 Further details of the geophysical anomalies are provided in **Appendix 2**.

3.4 Diving Survey, Sampling and Finds

- 3.4.1 Wessex Archaeology diving operations complied with the *Diving at Work Regulations 1997* and the associated *Scientific and Archaeological Diving Projects Approved Code of Practice (ACOP) and guidance* (HSE website, accessed June 2015). Diving operations were conducted during daylight hours only on a single shift system with a four-person team.
- 3.4.2 Diving operations were carried out from *Wey Chieftain IV*, a purpose-built coded dive support vessel (DSV) based in Weymouth. The diving survey was planned in collaboration with The Shipwreck Project team, who form the vessel's crew.
- 3.4.3 Wessex Archaeology diving was carried out using SCUBA equipment and Nitrox was chosen as the gas mixture in order to maximise the bottom time.
- 3.4.4 Archaeological, environmental and observational data was recorded using Wessex Archaeology's proprietary real-time DIVA Microsoft Access recording system. Inspection and survey of the site was carried out using tape measurements and diver positional data provided by a Sonardyne Scout USBL system. This position was displayed in DIVA's ArcGIS interface during the dive, layered onto a georeferenced geophysical survey image of the site. This enabled the diving supervisor to provide navigational information to the diver. Still and video photography were taken as necessary.
- 3.4.5 Fieldwork data not recorded by Wessex Archaeology has been integrated into the assessment; the source of the data is stated where necessary.
- 3.4.6 In addition to standard Wessex Archaeology record sheets and photographs, finds and samples have been selectively recorded using photogrammetry. Three-dimensional pdfs of the models created are in **Appendix 3**.

3.5 Characterisation

- 3.5.1 The site has been both described and characterised. **Section 4** uses a recognised method of describing wreck sites. **Section 5.2** uses the BULSI scheme to provide a wider characterisation. This scheme presents site and contextual data as a vessel and site 'biography' under the following themes:
- *Build – the design and construction of the vessel;*
 - *Use – the use of the vessel before it was lost;*
 - *Loss – how the vessel was lost, including initial shipwreck site formation processes;*
 - *Survival – what has happened to the site since, including subsequent site formation and modification processes and the current condition of the vessel; and*
 - *Investigation – what is known about post-loss salvage and site investigation.*



4 RESULTS

4.1 Summary of Progress against Objectives

4.1.1 **Table 3** shows the progress that has been made against the fieldwork objectives presented in **Section 2**.

Table 3: Summary table

Objective	Progress
Contact The Shipwreck Project, finders of the sites, to assist with the identification of the sites location and participate in the undesignated site assessment including the possibility of access to their geophysical data	Achieved. Grahame Knott and Richard Bright-Paul of The Shipwreck Project made the geophysical and other data available to Wessex Archaeology and these were used to inform the report. Wessex Archaeology's collaboration with The Shipwreck Project was successful in obtaining data and information about the site, expertise sharing and social media coverage.
Undertake a data audit comprising documentary research on each site as appropriate, to inform designation assessment. Alison James can provide copies of all information in the NRHE	Achieved. Data audit/research was undertaken. Alison James was contacted to ensure all information was gained from the NRHE.
Contact the Receiver of Wreck and Historic England to gain a list of droits relating to the sites	Partially achieved. The Receiver of Wreck and Historic England were contacted to gain a list of droits relating to the site and the surrounding area.
Undertake assessment of any finds held by The Shipwreck Project	Achieved. The finds held by The Shipwreck Project were loaned to Wessex Archaeology for further archaeological assessment.
Undertake a diver survey of the exposed remains. Confirm position, extent, stability and character (plotted by tracked diver survey) of the site	Achieved. The site was investigated and the position, extent, stability and character of the exposed remains were confirmed.
Locate and accurately position (plotted by tracked diver survey and probing where appropriate) any additional visual archaeological material	Achieved. Several additional features within the main site were located and positioned.
Undertake a diver survey to ground truth anomalies identified from any geophysical data provided by The Shipwreck Project team (using tracked diver survey, probing and augering as appropriate)	Partly achieved. Following the advice of local expert Richard Bright-Paul and the potential shifting of a sandbank nearby the site the investigation was focused on the main site.
In agreement with Historic England, and if considered appropriate, accurately position and recover samples suitable for dendrochronological analysis if suitable timbers are exposed according to the brief protocols issued by the HE Scientific Dating Team (Annex A of the HE brief), and deliver them to Historic England on completion of site visit for further analysis to be coordinated by the HE Scientific Dating Team	Not achieved. No exposed wooden remains were located on site.
Produce a structured record of field observations; preferably including a	Achieved. A structured record of field observations using the DIVA recording system

Objective	Progress
photographic record of the site as free from fauna as possible and a basic site plan. Key artefacts are to be the subject of detailed examination and recording (position by tracked diver survey, taped measurements, photographs and video and written database entries). Undertake the collection of appropriate bed level pH values	and still and video photography was produced. The survey resulted in a measured plan of the site and key artefacts were measured and recorded.
Review the site against the non-statutory criteria for Designation under the Protection of Wrecks Act 1973	Achieved. See Section 7.2 .

4.2 Site Position

4.2.1 The site lies in approximately 23 m of water (LAT) about 400 m from Chesil Beach and less than three nautical miles W of Portland in an area exposed to wind and waves from the S and SW (**Figure 1**). The site is within the Chesil Beach and Stennis Ledges Marine Conservation Zone.

4.2.2 The site is scattered in an area of approximately 40 square metres consisting of three cannons and one anchor, although at the current stage of investigation the boundaries of the site are not clearly defined and could extend further towards W - SW into a sandbank.

4.2.3 The location of one of the three cannons known on site, cannon **WA2002**, was taken with the USBL system and the positions of the remaining archaeological features shown in **Figure 3** were derived by taking the distance and bearing from **WA2002**.

Table 4: Site co-ordinates

Position	WGS84 Long/Lat (Decimal Degrees)		WGS84 UTM 31N	
	WA2002	Longitude	2.4904° W	Easting
Latitude		50.58286° N	Northing	5603563

4.3 Operational Summary

4.3.1 Due to the inclement weather conditions the diving operations were carried out in three tranches from June to October 2016 resulting in six dives at a maximum depth of 22 m and achieving a total of 242 minutes of bottom time.

4.3.2 The site was first located and delimited by connecting the main features with a line. The area within the line was then mapped and when the survey of the area was completed a series of circular searches along the main features were carried out in order to extend the area of search.

4.3.3 Diagnostic measurements of the ordnance and other notable archaeological features on the site were taken, along with detailed descriptions, in order to aid identification.

4.3.4 The extent of the site was investigated by divers and by carrying out a series of transects with a drop down camera in a wider area around the site. No visible archaeology was noted during this search. However, due to the mobility of the sediment on the seabed and the



scattered nature of the site it is very likely that further buried material is present in the proximity of the site.

4.4 Site Description

Seabed and Ecology

- 4.4.1 The site consists of a flat area of sand with some randomly dispersed gravelly sand, patches of gravel and pebbles up to 500 mm. Pebbles and shells of slightly larger dimensions are found trapped within the small scours of the larger archaeological features. The nature of the pebbles and gravel is consistent with the geology observed around Chesil Beach and it is not believed to constitute ballast.
- 4.4.2 At the time of the investigation a sandbank was noted following the W side of the site. It is the opinion of The Shipwreck Project that the site, or part of it, is periodically covered by sand. In fact, in September 2016 when Wessex Archaeology returned to the site after two months, it was evident that the level seabed was 100-150 mm higher in places. The concentration of the accumulation of sand was particularly striking along the W side of the site where the build-up of sediment caused some artefacts that were visible during the dives carried out in July 2016 to disappear.
- 4.4.3 No fish were observed on site with the exception of a sunfish (*Mola mola*), sighted on 22 July 2016. Some small crustaceans, including edible crabs (*Cancer pagurus*) were observed. The marine vegetation was not noticeable although a low covering of soft and hard marine growth was present on the larger objects.

Finds

- 4.4.4 The site consisted of three cannons, an anchor and many cannon balls, as well as large iron T-shaped blocks. The archaeological material covers an area of 30 by 30 m and shows a concentration of artefacts on the W side (**figure 3**).
- 4.4.5 Anecdotal evidence suggests that elephant tusks and large amounts of wooden hull have been seen in the proximity of the site. None of this material was found during the investigation.
- 4.4.6 At least three cannons were discovered since The Shipwreck Project started investigating the site and this number was confirmed during Wessex Archaeology's investigation.
- 4.4.7 All the cannons are cast iron smooth-bore muzzle loading ordnance in a heavily concreted state. Their measured dimensions are as follows:

Table 5: Cannon measurements

Measurements	WA2002		WA2011		WA2008	
	mm	ft/in	mm	ft/in	mm	ft/in
Muzzle diameter	245	9.6	245	9.6	190 partly buried	7.4
Muzzle neck length					220	8.6
Bore	130	5.1	70 very concreted			
Barrel length	1930	6' 3.6	1520	4' 10.8	1550	5' 0.9
Breech length	230	9	160	6.2	160	
Base ring diameter	390	15	490	19	320	12.5

Measurements	WA2002		WA2011		WA2008	
	mm	ft/in	mm	ft/in	mm	ft/in
Trunnion diameter			130	5.1		
Trunnion to base ring			710	27.9		

- 4.4.8 Cannon **WA2002** lies at the W end of the site in an area with limited archaeological material. The cannon is heavily concreted and it was found with a rope wrapped around its body which could suggest that it has been moved from its original location. The cannon has a round cascable but no rings or trunnions are discernible. The bore is not closed but heavily concreted. The only artefact in close association with **WA2002** is an iron mortar shot (**WA2038**) that was seen not far from the cascable. The cannon orientation is N – S with the muzzle towards the south (**Plate 2**).
- 4.4.9 The cannon **WA2011** is approximately 19 m at 320° from **WA2002**. It is heavily concreted but from the position of the trunnion appears to be in an upright or upside down position. Of the two trunnions only the right trunnion is visible whilst the other seems to be missing. The cascable is rounded and slightly elongated. The bore is only partially accessible as it is heavily concreted with the concretion protruding off the bore a little. The cannon also shows an unusually linear horizontal concretion like a small platform along the sides at just above the trunnion. A plausible explanation for this phenomenon is that the concretion formed at a moment when the gun was partially buried and therefore retains a pattern of the height of the seabed level at the site (**Plate 3**). Two mortar shot were observed in the proximity of this gun, one at either end (**WA2012** and **WA2039**). They both measure approximately 290 mm in diameter. One fragment of pottery was found wedged underneath the gun, though it was considered too worn to be identifiable and was left *in situ*.
- 4.4.10 The last and southernmost cannon, **WA2008**, is another cast iron muzzle loading gun. Recently found by The Shipwreck Project, the cannon lies partially exposed at the edge of a sandbank on a seabed composed of sand, and small and medium sized pebbles. It is very likely that the muzzle part of the cannon become exposed only recently as the front part appears to be less affected by chemical and biological marine alteration suggesting that it was buried until recently (**Plate 1**). The muzzle face and the bore are clear of concretion but partly buried, with only up to 50 mm showing in places. The body of the gun from the breech to the 2nd reinforce is concreted. The muzzle and part of the chase are not as concreted; at least two rings are visible on them but the first and second reinforce are heavily concreted. The breech is less concreted and the shape of the fillets is recognisable but the shape of the cascable and the button, although these are certainly present, blend into a thick concretion and are hard to determine. **WA2008's** muzzle is orientated towards the NE. A model of **WA2008** is provided in **Plate 8**. Interestingly, the muzzle was found buried in October 2016 when Wessex Archaeology returned to the site.
- 4.4.11 The anchor **WA2015** was found 6.8 m on a westerly bearing of 260° from the cascable of **WA2011**. **WA2015** is a small, very concreted stocked anchor and lies flat on the seabed in an approximate N-S orientation with the crown southward. The shank is partially buried and appears to be broken. The crown has a shallow and wide curve with large and very concreted triangular flukes at the ends. The curve of the crown appears to be flush with the flukes and no bill is visible or protrudes from the flukes. The crown and shank show a rectangular section and the angle they meet at is approximately 70-80° with the flukes at a sharper angle (**Plate 4**). A model of **WA2015** is provided in **Plate 7**. The dimensions of the anchor are as follows:

Table 6: Anchor measurements

	WA2015	
Measurements	mm	ft/in
Distance between bills	1390	4' 6.7
Shank length	1560	5' 1.2
Crown width	135	5.3
Shank width	140	5.5
Crown thickness	115	4.5
Fluke maximum width	275	10.8

- 4.4.12 The remaining visible finds consist of 26 large iron shots and five T-shaped blocks scattered with no apparent order across the site (**Plate 5**). These two features, the blocks and the iron shot, are found in close association throughout the site with the area N and W of **WA2008** showing a concentration of material, in particular around the block **WA2018**.
- 4.4.13 The diameter of the iron shot (from 290 to 340 mm) and the presence of fuse holes suggests that these are mortar shells. Although not all the shot were checked for a fuse hole it is assumed that they are mortar shells on the basis of the measurements being consistent with the dimensions recorded for the mortars previously recovered. Of 26 pieces of ammunition, only one solid shot of 180 mm diameter was seen (**WA2048**) lying at the centre of the site.
- 4.4.14 Five T-shaped blocks were found during the survey. Four are in a horizontal position whilst one stands vertically with the lower end buried in sand (**WA2042**). All the blocks are worked similarly and appear to have the same dimensions.
- 4.4.15 The block **WA2020**, located between the cannons **WA2002** and **WA2011**, was recorded in detail. From the top to the bottom the block it measured 580 mm along the top edge, 105 and 140 mm the two lateral lengths, 100 and 110 mm along the two cut in sides parallel to the top, 205 and 230 mm the sides that follow down to the base and 310 mm at the base. The thickness of the block measured between 185 and 220 mm although all lower sides of the block continued into the sand (**Plate 5b**).
- 4.4.16 As the blocks were covered by a low turf of marine growth, one block, **WA2020**, was inspected to determine its material of manufacture. The inspection revealed a light-coloured concretion below which was a shiny metal surface, probably cast iron. After the inspection it became apparent that these objects are likely to be ballast weights or keel blocks (sometimes known as kentledge; iron ballast that sat on the keelson to provide stability). Anecdotal evidence received from Grahame Knott suggests that the blocks weigh over 50 kg.
- 4.4.17 A possible deposit of blocks and mortars that could have been used in the vessel to store the mortars can be seen from **WA2018** where the two braces of the T of the block encompass and hold the iron shot (**Plate 5a**). However, at present there is no archaeological or documentary evidence that this arrangement was ever used.
- 4.4.18 The presence of buried material was recorded approximately 5 m E of the cannon **WA2008** where a wrought iron rod of approximately 0.5 m length (**WA2033**) was found barely

exposed in the gravelly sand adjacent to three mortar shells (**WA2034**, **WA2035** and **WA2041** – **Plate 5d**).

Samples

- 4.4.19 No material was recovered from the seabed during the Wessex Archaeology diving operation. The elephant tusk (**WA2005**) and copper-alloy drift bolt (**WA2019**) said to have been recovered from the proximity of the site were loaned by The Shipwreck Project to Wessex Archaeology and recorded (**Plate 6**).
- 4.4.20 Although there is no archaeological evidence that the tusk and the pin are part of the 'Alexander' wreck site and not stray material, anecdotal evidence tends to suggest the connection of these two finds with the site. In order to verify if the finds are consistent with a 19th century wreck and further characterise the finds, it is suggested that metallurgical analyses are carried out on **WA2019** and **WA2005** is subject to C14 and isotope analyses. The results of the metallurgical analyses could be compared with similar archaeological records, such as the mineral composition of the fastening from *Earl of Abergavenny*, whilst the C14 and isotope analyses could provide more clues on the period and provenance of the tusks recovered in the area (<http://journals.plos.org/plosone/article?id=info%3Adoi/10.1371/journal.pone.0163606> accessed on 27/10/2016).

5 DISCUSSION

5.1 Site Identification

- 5.1.1 The archaeological evidence on site is limited as only three cannons, one anchor, 26 iron shot and four iron blocks, as recorded during the investigation.
- 5.1.2 The archaeological evidence is consistent with the wreck of a wooden ship, however no conclusive proof indicating a positive identification of the wreck was found and a number of possible interpretations are plausible. The potential identification of the remains as the East Indiaman 'Alexander' is discussed below.
- 5.1.3 Almost the totality of the 26 iron shot are identified by size and the presence of a fuse hole as projectiles (shells) for mortar. **Mortar** shells were progressively adopted by the different navies from the late 17th century and remained in service until the mid-19th century. The 275-283 mm (10.8-11.3 in) mortar ball was not in use in English ordnance as the Royal Navy used the 12¾ and 9¾-in calibre for mortars of 13 and 10 in (Caruana 1997). There are records of British mortars of 12¾ and 12½ in calibre used in British bomb vessels at the end of the 17th century but these are generally regarded as experimental dimensions and were not commonly used (Beltrame 2011). Generally, the absence of a collar and the presence of two recesses on the sides of the fuse hole for lifting rings or ears could suggest a later production, 1800s, rather than an early one.
- 5.1.4 Two similar mortar iron shot were dredged up in 2009 in the harbour of Medemblik in the province of North Holland (email between Nico Brink and David Carter). Their dimensions are very close to the one recovered from the *Alexander* site. The diameter is 273 mm, weight 57 kg, thickness of the wall 50 mm, opening of the fuse 45 mm, casting seam and sprue hole are identical. According to Nico Brink, the national gun foundry in The Hague cast bronze mortars of this calibre in 1709 and 1819 but iron shots were not cast in the Netherlands and had to be imported.
- 5.1.5 A possible alternative is that the shot were intended for French mortars. French mortars of the Gribevaul system fired bombs of 49 kg from a calibre of 274 mm. These mortars were

built from the end of the 18th century and were widely used during the Napoleonic wars mainly for siege operations. A Napoleonic siege mortar shell of approximately 280 mm diameter and weighing around 50 kg, with a 30 mm fuse, was recovered from the Comines Canal near Ypres and is thought to have fallen off a barge (http://militarymementos.co.uk/Napoleonic-Siege-Mortar-Ball-Cannon-Ball?filter_tag=Napoleonic accessed on 14/06/2016).

- 5.1.6 Anecdotal evidence seems to suggest that at least some of the mortars recovered from the site contained black powder. If that was to be confirmed, it would be very unusual as shells tended not to be filled with explosive until shortly before use. The use of mortars at sea were predominantly intended for attacking fortification onshore and due to the powerful recoil of the gun, mortars were issued only to specialised sailing platforms called bomb vessels until the mid-19th century. Portland Castle and the Verne Citadel (started 1851), the closest fortifications to the site, were not under direct attack by foreign navies between the 18th and 19th centuries, although they may have conceivably practice fired weapons from time to time.
- 5.1.7 The **cannons** are too heavily concreted to be positively identified. They are relatively small and consistent with small bored cannons.
- 5.1.8 If compared with those of standard Napoleonic naval guns commonly carried by European ships of the line, the large gun is similar to a 4 or 6-pdr whilst the two small cannons are of the dimensions of a 3-pdr (Henry 2004). If compared with late 17th century guns the dimensions are consistent with minions or sakers (Lavery 1987). None of the iron projectiles found on site could have been fired by the cannons found so far.
- 5.1.9 Therefore, it is possible that guns were loaded on board as ballast, or ordnance was part of the cargo being returned for sale or, together with the mortars, as a batch of scrap iron. If this is the case it is likely that the cannon would have been rendered unusable by damaging at least one of the two trunnions.
- 5.1.10 Nonetheless the presence of a large number of mortar shot, possibly filled with powder and ready to be shot, could suggest these are the remains of an unknown bomb vessel possibly of foreign origin. Bomb vessels were invented by the French in 1683 and were successively adopted by the British. Although the main armament were two mortars these vessels also carried ordinary guns. For example, an early vessel of this type added to the Royal Navy in 1688 was armed with two minions, four falcons and two long bow chasers, whilst later vessels (1730) were equipped with eight 6-pdr and 14 swivels (Howard 1979; Goodwin 1989).
- 5.1.11 The cannon dimensions would be consistent with the ordnance carried by East Indiaman from the mid-18th century. From 1755 the usual armament for Indiamen could comprise 20 9- or 12-pdr on the gun deck and six 4- or 6-pdr usually mounted on the quarter deck. Use of supernumerary and unserviceable guns as ballast is also confirmed for *country* ships in the documentary record (Brown 1990; Bulley 2004).
- 5.1.12 The T-shaped iron **blocks** are very likely to be kentledge (keel ballast), or limber-kentledge and they could have conveniently locked onto the keelson or limber planks, or interlocked with other material used as ballast such as the mortar shells. At the present stage of the investigation the blocks constitute a unique find that has no known parallel in the archaeological record.
- 5.1.13 The **anchor** is also too heavily concreted to be conclusively dated. The presence of a curved crown and wide flukes with no apparent bills could suggest a date a manufacture

later than the end of the 18th century rather than earlier. Also the shape of the anchor suggests that this is not a British Naval anchor, either long shank Admiralty or new pattern, suggesting that the vessel is unlikely to be a British military ship.

- 5.1.14 Taking into account the finds of the wider area, the recovery of **elephant tusks** seems to be distributed over quite a wide area rather than being concentrated in one single location. This is consistent with the dynamic of Chesil Beach for which dispersion of particularly lighter material is to be expected. However, there is no evidence to confirm that the tusks are associated with the site of the investigation.
- 5.1.15 It has been previously suggested by Wessex Archaeology that the tusks from Chesil Beach could be associated with the 18th or early nineteenth century and possibly connected with the ivory trade of Lyme Regis. In 1833 a document mentions that from Lyme Regis 'a lucrative trade was carried on with Guinea, from which were imported the usual commodities of elephants' teeth...' (Wessex Archaeology 2004). Like other ports in the South West, Lyme Regis was also involved in the slave trade until the Abolition and it is possible that a West Country slave ship might have been the source of the material.
- 5.1.16 According to the *Cyclopaedia of Commerce* printed in 1819, elephants' tusks were imported from "the East Indies, the kingdom of Achem, Siam, Pegu, the Island of Ceylon, both coast of Africa, particularly along the Ivory coast, and the vicinity of the river Gambia" (Clarke 1819). Therefore, elephant tusks could have easily been relevant to the cargo of an inbound East Indiaman such as *Alexander*. Bombay, the port from which *Alexander* departed, was an important distribution centre of ivory in the 19th century collecting and selecting ivory from all the southern countries of Asia and the East Coast of Africa. It is also possible that the tusks were part of a private possession gathered by members of the crew and bought on the W coast of Africa during the voyage to England.
- 5.1.17 The potential connection between *Alexander* and French/Dutch mortars is not evident in any of the records. One possible speculation is that they were loaded in the ex-Dutch colony of Cochin (now Kochi), on the W coast of India. According to the article published by the LUNAR Society, Captain and Mrs Hughes and their families were expected to board as passengers at Cochin, so Cochin might have been one of the stops of the ship on its route to London (<http://www.weymouthlunarsociety.org.uk/alexander.htm> accessed on 09/11/2016). In 1815, after being governed by the Dutch since 1663, Cochin was given to the British colonial empire as stipulated by the Convention of London. The port was important for the commerce of pepper, cardamom and other merchandise and it is possible to speculate that the mortar shells were loaded onto the East Indiamen there before sailing for the E coast of Africa.
- 5.1.18 The recorded wrecking location for *Alexander*, "two miles west of Portland, close by the village of Wyke, West Bay, upon the bill of Portland" is generally consistent with the location of the site (Nichols 1815; Phipps 1840; Grocott 1997).
- 5.1.19 Therefore, the speculation that the site contains the remains of the East Indiaman *Alexander*, as advanced by the members of The Shipwreck Project, cannot be discounted. However, it is not positively confirmed by direct evidence either.
- 5.1.20 Due to the absence of wreck structure, the possibility that the finds on the seabed do not constitute a wreck event but are material jettisoned from a ship in distress cannot be entirely excluded. However, the likelihood of this scenario could be rebutted if considered that the first material to be jettisoned was usually the more accessible goods stored on deck and certainly not the kentledge stored underneath the cargo within the hold.

- 5.1.21 A search in the NRHE for documented losses within four km to the E of Chesil Beach from Chesil Cove to West Fleet resulted in 136 documented losses (**Figure 1**). This search does not include the documented losses recorded off the bill of Portland. Discounting the vessels generally sunk earlier than 1650 and later than 1870 the number is narrowed to 94 (**Appendix 5**). Of these, 13 are Dutch vessels and nine are French vessels. Only four vessels (900465, 900470, 900500 and 900505) are reported to carry guns, however this result is highly unrepresentative as the records do not generally include details about armament. The NRHE records for the 94 ships can be broken down as follows in **Table 7**:

Table 7: Documented losses

Date	Number
1650-1699	6
1700-1799	41
1800-1870	47

5.2 Site Characterisation

- 5.2.1 The overall characterisation of the exposed material on the seabed can be summarised as follows, using the Build/Use/Loss/Survival/Investigation (BULSI) method of 'shipwreck biography' as presented within the ALSF project *On the Importance of Shipwrecks* (Wessex Archaeology 2006). The results are as follows:

Build

- 5.2.2 Unknown. It is not known when the vessel was built and no finds were located to suggest a precise date for the site. However, the presence of iron shot for mortar suggest the beginning of the 18th century as the earliest date of construction and latest probable date of use around the 1860s.
- 5.2.3 Wessex Archaeology found no archaeological evidence of wooden structure visible on site. Nonetheless, it is very likely that the vessel was built in wood as organic material is not expected to survive the formation processes on this specific site.
- 5.2.4 There is photographic evidence of a small section of coherent carvel hull structure that was previously located nearby, but there is no evidence that associates this find with the site other than proximity.

Use

- 5.2.5 Unknown. At this stage of the investigation, it is safe to say that there is no evidence pointing towards a Naval use of this ship, and the vessel is more likely to be that of an armed trader.
- 5.2.6 The presence of small calibre cannons and the absence of any visible larger cannon/mortars in the area investigated so far strengthens the hypothesis that the vessel was an armed trader and not a man-of-war. Similarly, the anchor is not a standard anchor that would have been issued to a British Naval vessel and the presence of non-English mortar shells would be unusual.
- 5.2.7 There is no clear evidence of a cargo although this could have been perishable, or salvaged, and therefore did not survive during the formation processes of the site. However, the absence of evidence does not constitute evidence in itself and the theory that this vessel is a merchantman should be reviewed as more data becomes available.
- 5.2.8 The iron blocks could have been used as kentledge to balance a cargo of bulky but light goods such as cotton. Alternatively, the mortar shots and the cannons could be unused or unserviceable ordnance which constituted part of a cargo of cast iron intended to be sold

for scrap. The presence of Dutch or French shot could possibly suggest an inbound rather than an outbound cargo as this ammunition was not manufactured in Britain. Finally, the ship could have been caught in a storm whilst sailing off the bill of Portland coming from or heading to a foreign country.

- 5.2.9 The recoveries of elephant tusks in the wider West Bay area could be related to the dispersed cargo of a trader or East Indiaman. Wessex Archaeology found no direct evidence that associates the material on the site with ivory tusks. However, the geophysical assessment indicates several anomalies in the wider area and it could be possible that a more coherent assemblage lies in the proximity of the site, due to site formation processes.

Loss

- 5.2.10 Unknown. It is likely that the remains are part of a ship that went ashore on Chesil Beach. The location of the wreck is consistent with a SW – SSW gale.

Survival

- 5.2.11 The archaeological material on site consists of three cannons, one anchor and different scattered material including mortar balls and iron blocks. The visible finds are made predominantly of heavy cast iron, except a semi-buried rod of wrought iron. There is no visible organic material on site but anecdotal and photographic evidence suggest that there is potential for buried organic material within the wider area. The visible artefacts do not appear to have any obvious order although the block **WA2018** could retain an original arrangement with the two mortars adjacent locked under the sides.
- 5.2.12 The rod of wrought iron at the SW end of the site (**WA2033**) and the presence of a sand bar along the SW side of the site substantiate the possibility that further material could be buried to the SW of the site. Finally, a wider spread of material is suggested by the sidescan sonar data as smaller concentrations of anomalies were identified at 200 m NW, 150 m NNW and 300 m SE of the site.

Investigation

- 5.2.13 The site was investigated by The Shipwreck Project over several dives since 2013 but there is evidence that the site was of interest of the LUNAR society, of which Grahame Knott was a member, probably since the 1990s. Furthermore, it is possible that the site may have been explored and disturbed by divers previously. Other locations in the proximity of the site have been dived in the past and several objects possibly associated with the site recovered by divers drifting along the beach.

6 RISK ASSESSMENT

- 6.1.1 Using available information, the site has been risk assessed using Historic England's *Protected Wreck Sites at Risk: A Risk Management Handbook* (2008). The results are presented in **Appendix 6**.
- 6.1.2 Risk is assessed as **low**. The principal vulnerability is the high energy location and the potential loss of organic material eventually exposed by a shifting mobile sediments. There is also a minor risk of find recoveries without adequate archaeological control that affects the wider area. In this sense the elephant tusks are identified as particularly vulnerable because they are more likely to be targeted for their rarity and hypothetical monetary value.



7 ASSESSMENT AGAINST NON-STATUTORY CRITERIA FOR DESIGNATION

7.1 Assessment Scale

7.1.1 For each criterion, one of the following grades has been selected. This has been done in order to help assess the relative importance of the criteria as they apply to the site. The 'scoring' system is as follows:

- *Uncertain – insufficient evidence to comment;*
- *Variable – the importance of the wreck may change, subject to the context in which it is viewed;*
- *Not Valuable – this category does not give the site any special importance;*
- *Moderately Valuable – this category makes the site more important than the average wreck site;*
- *Highly Valuable – this category gives the site a high degree of importance. A site that is designated is likely to have at least two criteria graded as highly valuable;*
- *Extremely Valuable – this category makes the site exceptionally important. The site could be designated on the grounds of this category alone.*

7.2 Non-Statutory Criteria Assessment

7.2.1 The 'Alexander' site has been assessed using the scale presented above against the criteria required for Designation under the Protection of Wrecks Act 1973 as presented in Historic England's *Ships and Boats: Prehistory to Present* (2012, 9-11). Should further evidence be found relating to the site, this assessment should be updated appropriately.

Period

7.2.2 **Uncertain** – From the archaeological material little information can be discerned on the date of the vessel other than it is likely to be post-medieval in date and possibly built between the early 18th century and the mid-19th century.

Rarity

7.2.3 **Highly Valuable** – The artefacts on site are a mixture of unusual and unique material. The assemblage of material contains mortar shells of an unusual calibre and keel blocks of an uncommon shape. Wessex Archaeology was not able to find a parallel in the archaeological record to the shape of the blocks. Moreover, the elephant tusks recovered from the wider area are not unique in a maritime context but they are rare in English historical wrecks.

Documentation

7.2.4 **Uncertain** – The vessel is not identified.

Group Value

7.2.5 **Moderately Valuable** – The site can be associated with the larger group of wrecks of Chesil Beach. The possible Dutch origin of part of the material could narrow the group to the vessels of Dutch origin or transporting Dutch cargo that sank in the area. Unfortunately, the wreck is not identified and no specific association can be presented at this stage of the research.

Survival/Condition

7.2.6 **Not Valuable** – There are limited remains and they are all made of ferrous material. Whilst the mortars and the blocks are well preserved and have developed only a little concretion,

the cannons and the anchor, although showing a degree of intactness, present a thick covering.

- 7.2.7 As shown by the muzzle of cannon **WA2008**, it is possible that elements of the guns that are not exposed to the water are less concreted.

Potential

- 7.2.8 **Moderately Valuable** – Periodical changes to sediment level are confirmed by Wessex Archaeology's investigation and are likely to expose or cover further material. Overall the impression is that the net balance of sediment for the area SW of the site is negative. The migration of the sand could potentially reveal buried artefacts in a very good state of preservation as demonstrated by the condition of the muzzle of cannon **WA2008**.

- 7.2.9 It is very likely that additional material lies in a wider area on the seabed, either due to the wrecking event or site formation processes. This is corroborated by the sidescan sonar data which shows the presence of further anomalies in the wider area.

- 7.2.10 Therefore, there is potential for further investigation in the area. However, it is likely that only small sections of wreckage are likely to be found as the environment in which the site lies is extremely dynamic and it is certain that any vessel that went onshore in Chesil Beach would have been broken-up and dispersed over a large area.

Fragility/Vulnerability

- 7.2.11 **Moderately Valuable** – The known finds are limited to materials that are resistant to mechanical erosion and these are unlikely to be destroyed by natural processes in the short-medium term.

- 7.2.12 Recovery of artefacts without appropriate archaeological control seems to be the main risk to which the site is exposed. The practice appears not to be limited to finds of small dimensions but in the past larger and heavier finds such as a cannon have been recovered. It was reported to Wessex Archaeology that a cannon was removed from this site and used to anchor a boat that was treasure hunting in the early 1990s in the area (pers. comm. Grahame Knott). More recently there is indirect evidence of material recovered from the wider area being sold at auctions. A tusk recovered by plumber Trevor Lee was auctioned in 2008 (http://www.dorsetecho.co.uk/news/3863190.Treasure_lost_off_Chesil_Beach_up_for_auction/ accessed on 19/10/2016). The tusk is said to have been recovered from a position off Chesil Beach. These activities characterise the general area and do not seem to specifically target the site.

Diversity

- 7.2.13 **Uncertain** – The assemblage of artefacts found at the site is unusual and could reflect a possible foreign origin of the vessel. Nonetheless, there is insufficient data about the vessel to assess this category.

7.3 Summary

- 7.3.1 Based on the above assessment, Wessex Archaeology is of the opinion that the site does not currently meet the criteria for Designation under the Protection of Wrecks Act 1973.

- 7.3.2 Should further significant data become available, it is recommended by Wessex Archaeology that this assessment be reviewed.

8 CONCLUSION AND RECOMMENDATIONS

- 8.1.1 On the basis of the available evidence, Wessex Archaeology does not believe that the site requires formal management intervention or other active intervention at the present time.
- 8.1.2 The survey resulted in a detailed archaeological record of the material visible at the site. The remains are likely to be dated between the beginning of the 18th and the mid-19th century and could be related to an armed trader carrying a cargo which included munition of foreign manufacture. Due to the lack of evidence it was impossible to advance an identification of the remains with a recorded loss.
- 8.1.3 The character of the site is summarised in **Table 8**, based on Watson and Gale's (1990: 183) seven topics for evaluating underwater wreck sites.

Table 8: Summary of site character

Area and distribution of surviving ship structure	No ship's structure was visible on site during the investigation. However, there is evidence that wooden remains have been seen in the past in an unknown area in the proximity of the site.
Character of the ship structure	The site consists of three cannons, an anchor and many iron shot, as well as large iron T-shaped blocks. Anecdotal evidence suggests elephant tusks and amounts of wooden hull have been observed in the proximity of the site.
Depth and character of stratigraphy	There is potential for further material as buried material was found on site. The site is periodically covered over by a sand bar that lies close to the site.
Volume and quality of artefactual evidence	The site is scattered in an area of approx. 40 square metres. All the artefacts recorded on site are made of ferrous material.
Apparent date of the ship's construction and/or loss	Post medieval ship possibly built between the 18th – mid-19th century.
Apparent function	Unknown. The cannons could have been used on an EIC ship of the late 19th century or an armed merchantman, although it cannot be excluded that they were carried as ballast. The mortars could also have been loaded as ballast or scrap but could have been cast for an overseas gun and be part of the cargo. As a working theory the presence of large ballast blocks could have been used to balance a cargo of light merchandise such as cotton.
Apparent origin	Unknown. The mortar balls are likely to be for a continental mortar as the calibre was not used in England. The potential presence of a cargo of elephant tusks could suggest that the vessel stops included India or Africa.

- 8.1.4 It is also recommended that Historic England encourage informal monitoring activities to be carried out by The Shipwreck Project on the site. These activities could be targeted at:

- *periodically inspecting the site to determine if further buried remains have become exposed;*

- extending the area of search towards NW and SE and update the site plan accordingly;
- checking if further removal of material without archaeological controls have taken place;
- ground-truthing the anomalies NW and SE of the site; and
- intrusive investigation on the exposed trunnion of cannon **WA2011** on the seabed to determine whether there are any diagnostic marks.

8.1.5 It is also suggested that analyses are carried out on the elephant tusks and the copper pin currently on loan by The Shipwreck Project to Wessex Archaeology in order to further characterise the finds recovered over the general area.

8.1.6 Finally, a copy of this report should be sent to Portland Museum and Weymouth Museum as established local repositories for the maritime finds recovered in the area.

9 ARCHIVE

9.1.1 The project archive consists of a hard copy file and computer records and is currently stored at Wessex Archaeology under project code 108280. The project archive will be transferred to an accredited repository that is yet to be agreed.

9.1.2 Shapefiles generated for the project comply with Marine Environment Data and Information Network (MEDIN) standards for metadata (Seeley *et al.* 2014).

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10.2 Charts

Admiralty Chart 2615, Portland Bill to the Needles.



11 APPENDICES

11.1 Appendix 1: Dive Log

Dive	Date	Start Time	Duration*	Max. Depth (m)	Divers	Task
1001	22/07/2016	12:40	39	22	Harrison/Croce	Locate site/record cannon WA2002-WA2011
1004	23/07/2016	14:40	28	21	Fowler/Croce	Record WA2008
1005	24/07/2016	06:15	46	22	Harrison/Croce	Record WA2015
1007	25/07/2016	06:25	54	22	Harrison/Croce	10 m circular search around WA2008
1008	11/10/2016	09:58	40	22	Fowler/Croce	Locate site/extend area of search
1009	11/10/2016	11:11	35	22	Harrison/Scott	Detailed inspection of guns and WA2020, extend area of search

* Bottom time in minutes (time from diver left surface to diver left bottom; actual working time will be shorter)

11.2 Appendix 2: Context Register

WA ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Description
7000	Debris field	536066	5603575	A2	57	38	0.5	Area of debris containing some bright reflectors and dark reflectors with heights of up to 0.5 m including anomalies 7001-7002 and 7008-7011
7001	Dark reflector	536070	5603574	A2	1.3	0.4	0.2	An elongated dark reflector with a broad, irregular shadow identified within an area of interpreted debris
7002	Dark reflector	536084	5603577	A2	1.4	0.3	0.3	Slightly curved, narrow dark reflector with a broad, distinct shadow identified within an area of interpreted debris
7003	Dark reflector	536103	5603602	A2	0.6	0.2	0.2	Small dark reflector with a distinct shadow
7004	Bright reflector	535841	5603634	A2	3.2	0.5	0	Slightly rectangular bright reflector close to an area of megaripples
7005	Bright reflector	535834	5603625	A2	3.5	0.7	0	Relatively straight bright reflector
7006	Bright reflector	535836	5603626	A2	1	0.7	0	Short, narrow, straight bright reflector



WA ID	Classification	Easting	Northing	Archaeological Discrimination	Length (m)	Width (m)	Height (m)	Description
7007	Dark reflector	535840	5603607	A2	1	0.4	0.3	Small, dark reflector with a tapered shadow. Possibly a rock, however looks fairly distinct
7008	Dark reflector	536049	5603573	A2	0.9	0.3	0.3	Small, dark reflector with a broad, irregular shadow identified within an area of interpreted debris
7009	Dark reflector	536058	5603588	A2	2.5	0.3	0.2	Fairly straight, narrow dark reflector with a broad shadow identified within an area of interpreted debris
7010	Dark reflector	536072	5603595	A2	0.8	0.3	0.5	Short, straight dark reflector with a broad, irregular shadow identified within an area of interpreted debris
7011	Bright reflector	536065	5603593	A2	2	0.4	0	Fairly straight bright reflector, possibly a shadow but with no discernible object, identified within an area of interpreted debris
7012	Dark reflector	536305	5603463	A2	5	2.1	0.2	Slightly curved dark reflector with a broad, distinct shadow
7013	Dark reflector	536317	5603444	A2	1.8	0.2	0.2	Small dark reflector with a slight, tapered shadow
7014	Seafloor disturbance	536365	5603458	A2	33	26	0	Distinct area of seafloor disturbance identified as an irregularly shaped patch of bright reflector with some areas of dark reflector. Possibly natural, however it looks a little anomalous to surrounding sediment
7015	Dark reflector	535955	5603698	A2	0.6	0.3	0.1	Small dark reflector with a distinct shadow
7016	Dark reflector	535955	5603698	A2	0.8	0.3	0.2	Small dark reflector with a relatively broad shadow
7017	Dark reflector	535968	5603690	A2	5.4	1.5	0.3	Relatively straight dark reflector with an irregular, broad shadow
7018	Dark reflector	536356	5603520	A2	1.3	0.3	0.2	Object with a distinct but tapered shadow
7019	Dark reflector	536434	5603433	A2	2.3	0.3	0.5	Distinct dark reflector with a tapered shadow

*Co-ordinates are in WGS84 UTM30N. Positional accuracy estimated ± 10 m.



11.3 Appendix 3: Finds Register

Find No.	Material	Description	Dimensions	Current location (recovered/ <i>in situ</i> on site)
2001	Iron	Cannon		Possibly recovered in the past, never found by Wessex Archaeology
2002	Iron	Cannon with modern rope		
2003	Iron	Mortar shot		
2004	Iron	Mortar shot		
2005	Ivory	Elephant tusk		Recovered by The Shipwreck Project
2006	Ivory	Elephant tusk		Recovered by The Shipwreck Project
2007	Iron	Mortar shot, close to WA2008		
2008	Iron	Cannon		
2009	Iron	T-shaped block		
2010	Iron	Mortar shot		Recovered by The Shipwreck Project
2011	Iron	Cannon		
2012	Iron	Mortar shot, close to WA2011	290 mm	
2013	Iron	Possible mortar shot, close to WA2002		
2014	Iron	T-shaped block, close to WA2001		
2015	Iron	Anchor		
2016	Iron	Mortar shot		
2018	Iron	T-shaped block with two mortars		
2019	Iron	Copper pin		
2020	Iron	T-shaped block		
2021	Iron	Mortar shot, close to WA2020	290 mm diameter	
2022	Iron	Mortar shot, close to WA2020	340 mm diameter	
2023		Mortar shot, close to WA2018		
2024		Mortar shot, close to WA2018		
2025 to 2031		Mortar shots, various locations		
2032		T-shaped block		



Find No.	Material	Description	Dimensions	Current location (recovered/in situ on site)
2033		Wrought iron, partially buried		
2034-2039		Mortar shots		
2040		Mortar shot		
2041		Mortar shot		
2042		T-shaped block		
2043		Mortar shot		
2044		Mortar shot, Portland Museum		Recovered
2045		T-shaped block		
2046		Mortar shot		
2047		Mortar shot		
2048		Cannon ball		
2049		Mortar shot		

11.4 Appendix 4: Sample Register

Sample No.	Material	Description	Sampling method
6001			

11.5 Appendix 5: Recorded Losses

NRHE_ID	Name	Date	Description	Easting	Northing
900429		1668	DUTCH CRAFT, 1668	360500	79880
900585		1798	SLOOP, 1798	360500	79880
1171276		1813	BRIG, 1813	360500	79880
1157016		1838	AMERICAN CRAFT, 1838	360500	79880



NRHE_ID	Name	Date	Description	Easting	Northing
1156335		1838	1838 wreck of a polacre in West Bay, Dorset. The name of the vessel is unknown. The crew were drowned.	366360	72980
900469		1750	1750 wreck of a Dutch cargo vessel which stranded between Lyme and Portland with tobacco. Built of wood, it was a sailing vessel.	360500	79880
900490		1758	CARGO VESSEL, 1758	360500	79880
1326946		1785	1785 wreck of Dutch galliot which stranded on Portland Beach while northbound from Bilbao with walnuts, almonds, and wine; its nationality and northbound course suggest that it was probably en route for the Netherlands, which has accordingly been indexed.	360500	79880
900524		1774	DUTCH CRAFT, 1774	360500	79880
1438841		1749	1749 wreck of Dutch cargo vessel which stranded on Chesil Beach. Reported as plundered and deliberately broken up by locals. Constructed of wood. Sailing vessel.	358140	78970
900430		1668	FRENCH CRAFT, 1668	360500	79880
1145464		1838	SCHOONER, 1838	360500	79880
900765		1799	SPANISH BRIG, 1799	360500	79880
1145311		1838	1838 wreck of an unidentified collier brig driven ashore in West Bay, Dorset.	360500	79880
900438		1676	1676 wreck of English hoy which stranded on Chesil Beach. Constructed of wood, it was a sailing vessel.	360500	79880
900569	AEOLUS	1795	1795 wreck of an English cargo vessel which stranded at Passage House in a storm. A wooden sailing vessel which was en route from London for Jamaica with a cargo of timber, masts and naval stores.	360500	79880
1144791	ALEXANDER	1815	1815 wreck of English East Indiaman which stranded near Wyke Regis homeward bound to London from Bombay with cotton, coffee, sugar, and passengers; a wooden sailing vessel. The wreck of ABERCROMBIE appears to be a variant account of this report.	360500	79880
901106	AMALIE	1869	Wreck of German brig AMALIE 1869 from Antwerp to St Thomas, captain Hans Wilhelm Steinboltz. Got into difficulties during gales and the captain mistook Portland for the Needles and it grounded in West Bay, near Portland.	360500	79880
900535	AMSTERDAM	1781	SWEDISH BRIGANTINE, 1781	360500	79880
1144835	AMYNTAS	1841	1841 wreck of English brig which stranded at Chesil Cove en route from Quebec to Exeter with timber. Constructed of wood, it was a sailing vessel.	360500	79880
900440	ANGEL GUARDIAN	1681	CARGO VESSEL, 1681	360500	79880
900940	ARETHUSA	1838	PASSENGER VESSEL, 1838	360500	79880
1170551	ARTHUR LE JUVENALE	1821	FRENCH BRIG, 1821	358150	79890
1231747	ATLAS	1831	AMERICAN BRIG, 1831	360500	79880



NRHE_ID	Name	Date	Description	Easting	Northing
1344053	BETSEY	1815	CRAFT, 1815	360500	79880
900485	BISCAYE	1754	SPANISH CARGO VESSEL, 1754	360500	79880
900531	BLANDFORD	1780	1780 wreck of British sloop which stranded at West Fleet, Chesil Beach, while bound from Truro for London with copper and tin. Constructed of wood, it was a sailing vessel.	360500	79880
900573	CATHERINE	1795	1795 wreck of a Scottish troop ship which stranded off Fleet in a gale. A wooden sailing vessel which was en route from the Isle of Wight for the West Indies carrying soldiers and horses.	360500	79880
900486	CHARMING MOLLY	1754	BRITISH CRAFT, 1754	360500	79880
1156291	CINQ SOEURS	1859	FRENCH BRIG, 1859	360500	79880
900937	COLUMBINE	1838	1838 wreck of a British schooner, driven ashore in West Bay, Dorset. It was en route from London to the Gambia.	360510	80800
1170746	COLVILLE	1824	1824 wreck of British West Indiaman which foundered off Fleet in a gale, while homeward-bound to London from Demerara with wine, rum and cotton. Constructed of wood, it was a sailing vessel.	360500	79880
900950	COMMODORE	1839	ENGLISH SCHOONER, 1839	360500	79880
900760	CONCORD	1799	1799 wreck of English brigantine which stranded near Abbotsbury en route from Topsham to Sunderland in ballast; a wooden sailing vessel.	360500	79880
900927	CORKRUMP	1832	1832 wreck of an English sloop which foundered in West Bay, after springing a leak during a gale. It was en route from Teignmouth to Portsmouth, with a cargo of fruit.	366360	72980
900465	DE HOOP	1749	1749 wreck of Dutch West Indiaman which stranded at Chesil Cove en route from Jamaica and/or America to Amsterdam, laden with gold and silver coin, linen and woollen goods, and tobacco. Constructed of wood, it was a sailing vessel and was armed.	358140	78970
1147244	DE HOOP	1749	Possible remains of 1749 wreck of Dutch cargo vessel, located approximately 1.75 miles SW of Chesil Beach. If DE HOOP, it was a wooden sailing vessel, which stranded with its cargo. The account of the wreck event is at 900465.	358140	78970
900764	DE TRENDE SODIKENDE	1799	NORWEGIAN CARGO VESSEL, 1799	360500	79880
900941	DOVE	1838	ENGLISH SLOOP, 1838	360500	79880
901088	EMMANUEL	1865	FRENCH BRIG, 1865	360500	79880
900771	ENDEAVOUR	1800	BRITISH CRAFT, 1800	360500	79880
1340419	FANNY	1806	SCHOONER, 1806	360500	79880
900500	FANNY	1760	1760 wreck of English brigantine which stranded at Chesil Cove outward-bound from London for Senegal with flour and other cargo. Constructed of wood, it was a sailing vessel which was involved in the slave trade.	360500	79880



NRHE_ID	Name	Date	Description	Easting	Northing
1171252	FLOR	1812	SWEDISH BRIG, 1812	360500	79880
1339477	FLORA	1803	1803 wreck of British brig which stranded on Chesil Beach en route from Newfoundland to Poole; a wooden sailing vessel.	360500	79880
1175935	FORTUNA	1824	1824 wreck of Dutch galliot, which stranded at Blacknor Point on passage from Oporto for home port of Amsterdam, with oranges and lemons. Constructed of wood, it was a sailing vessel.	366360	72980
1357645	FRIENDS ADVENTURE	1828	1828 wreck of an English vessel lost in West Bay, Dorset. It was en route from Plymouth to Arundel.	366360	72980
900450	GOLDEN FLEECE	1706	1706 wreck of English craft which stranded on Chesil Beach. Constructed of wood, it was a sailing vessel.	360500	79880
900575	GOLDEN GROVE	1795	1795 wreck of an English cargo vessel which stranded near Passage House in a gale. A wooden sailing vessel which was en route from London for St Kitts with a cargo of bale goods.	360500	79880
900489	GRIFFIN	1757	BRITISH CRAFT, 1757	360500	79880
1176045	HAABETS ANKER	1828	1828 wreck of a Norwegian brig, driven ashore on Portland Beach. It was en route from La Rochelle to Fredrikstad, in ballast.	360500	79880
1368474	JAMES AND MAGDALEN	1734	BRITISH CARGO VESSEL, 1734	360500	79880
1170491	JOHANNA ELIZABETH	1807	SWEDISH GALLIOT, 1807	360500	79880
900476	JOHANNA THERESA	1753	DUTCH CRAFT, 1753	360500	79880
900432	JOHN	1669	ENGLISH CARGO VESSEL, 1669	360500	79880
900470	LA CARP	1750	1750 wreck of French cargo vessel which stranded on Chesil Beach on route from Le Harve to Brest and/or Rochefort. Laden with timber, cod, herring, wine, silks and linen, it was a sailing vessel built of wood and was armed with 20 guns.	360500	79880
900538	LE PELERIN	1784	CRAFT, 1784	360500	79880
1170854	LEONORA	1824	DUTCH GALLIOT, 1824	360500	79880
1230105	LINDERHURST	1783	GALLIOT, 1783	360500	79880
900930	MARGARET ANN	1835	1835 wreck of a schooner, lost on the beach west of Portland.	360500	79880
1145493	MARIA JOHANNA	1852	DUTCH GALLIOT, 1852	360500	79880
900947	MARY ANN	1838	ENGLISH SCHOONER, 1838	360500	79880
1219866	MERCURE	1818	1818 wreck of French cargo vessel which stranded on Chesil Beach en route from Marseille to Le Havre. Laden with wine, hides, soap, almonds, lemons and raisins, it was a wooden sailing vessel.	360500	79880
900560	NANCY	1793	BRITISH BRIG, 1793	360500	79880



NRHE_ID	Name	Date	Description	Easting	Northing
900775	NANCY	1801	BRITISH CRAFT, 1801	360500	79880
1340418	NEW SYREN	1806	ENGLISH BRIG, 1806	360500	79880
901080	NORVAL	1860	ENGLISH SCHOONER, 1860	360500	79880
901101	NOTRE DAME DE VICTOIRE	1868	FRENCH SMACK, 1868	360500	79880
901090	OCEAN BRIDE	1866	BRITISH SCHOONER, 1866	360500	79880
900581	PEGGY	1796	AMERICAN CARGO VESSEL, 1796	360500	79880
900441	PETER	1685	FRENCH CARGO VESSEL, 1685	360500	79880
901070	PETRONILLE	1856	DUTCH BARQUE, 1856	360500	79880
1346652	PHEASANT	1819	1819 wreck of a vessel in West Bay, Dorset. It was en route from Poole to Milford Haven.	366360	72980
900570	PIEDMONT	1795	1795 wreck of a British troop ship which stranded off Fleet in a gale. A wooden sailing vessel which was en route from the Isle of Wight for the West Indies carrying soldiers.	360500	79880
1230234	POLLUX	1820	BRIG, 1820	360500	79880
900548	POLLY	1789	ENGLISH SLOOP, 1789	360500	79880
1327144	POLLY	1786	1786 wreck of English cargo vessel which stranded on Portland Beach en route from New Providence to London with mahogany, dyewoods, logwood and boxwood; a wooden sailing vessel.	360500	79880
1456249	PRINCE OF ASTURIAS	1739	1739 wreck of cargo vessel which stranded approximately a mile west of Portland, on Chesil Beach, being "so much damaged that it is impossible to get her off." Constructed of wood, it was a sailing vessel.	360500	79880
900761	RODNEY	1799	1799 wreck of English brigantine which stranded near Chesil Cove en route from Topsham to Sunderland in ballast; a wooden sailing vessel.	360500	79880
900959	SAGGITARIO	1840	1840 wreck of Austrian polacre which stranded on Chesil Beach while bound from Antwerp to Istanbul. Laden with sugar, textiles and logwood, it was a wooden sailing vessel.	360500	79880
900462	SQUIRREL	1748	1748 wreck of British cargo vessel which stranded on Chesil Beach. Laden with tobacco, it was a wooden sailing vessel.	360500	79880
1317549	SQUIRREL	1750	ENGLISH CARGO VESSEL, 1750	360500	79880
900534	THERESA	1781	BELGIAN BRIGANTINE, 1781	360500	79880
900576	THOMAS	1795	1795 wreck of an English cargo vessel which stranded off Fleet in a gale. A wooden sailing vessel which was en route from London for Oporto with a cargo of logwood.	360500	79880
901005	TWO BROTHERS	1853	ENGLISH SMACK, 1853	360500	79880

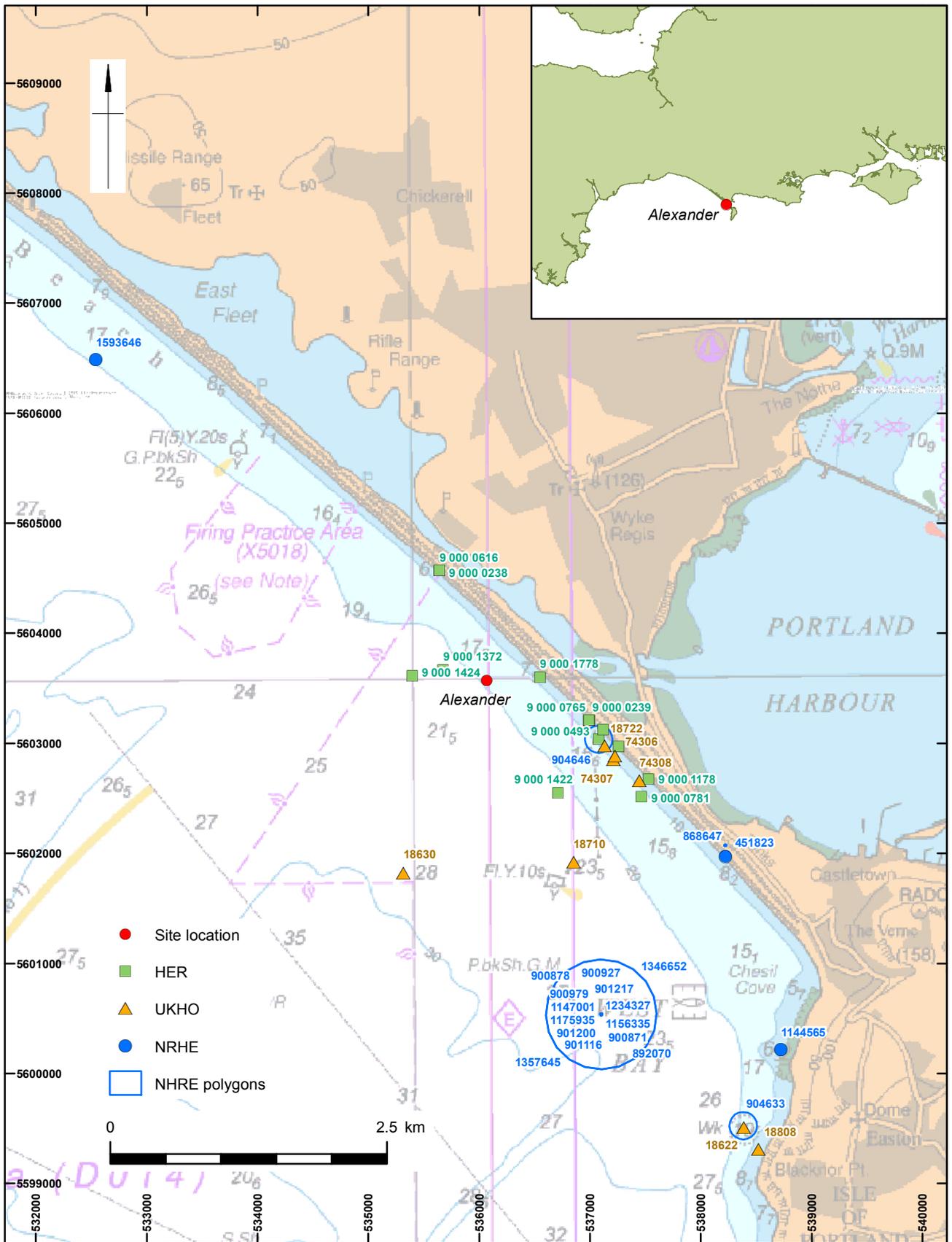


NRHE_ID	Name	Date	Description	Easting	Northing
1325541	TWO FRIENDS	1782	BRIG, 1782	360500	79880
1231628	TWO SISTERS	1824	1824 wreck of cargo vessel described variously as a German schooner or Danish brig, which stranded two miles west of Abbotsbury during a gale. Bound from Malaga to Hamburg with citrus fruit, it was a wooden sailing vessel.	360500	79880
900979	VENUS	1850	ENGLISH BRIG, 1850	366360	72980
900571	VENUS	1795	1795 wreck of an English troop ship which stranded off Fleet in a gale. A wooden sailing vessel which was en route from the Isle of Wight for the West Indies carrying soldiers.	360500	79880
1145522	VRIENDSCHAP HEIKE	1851	DUTCH GALLIOT, 1851	360500	79880
1231669	WASSTER NORLAND	1824	1824 wreck of craft, possibly Swedish, which was wrecked near Chesil Cove in a "hurricane" en route from London for Gibraltar. Constructed of wood, it was a sailing vessel.	360500	79880
1230233	WILLIAM	1819	ENGLISH CARGO VESSEL, 1819	360500	79880
1230066	YOUNG DE HENLOFF CHRISTIENT HENDRICK	1783	CARGO VESSEL, 1783	360500	79880
900505	ZENOBIE	1762	1762 wreck of a French frigate which stranded near Wyke House on passage from Le Havre; a wooden sailing vessel.	360500	79880



11.6 Appendix 6: Site Risk Assessment

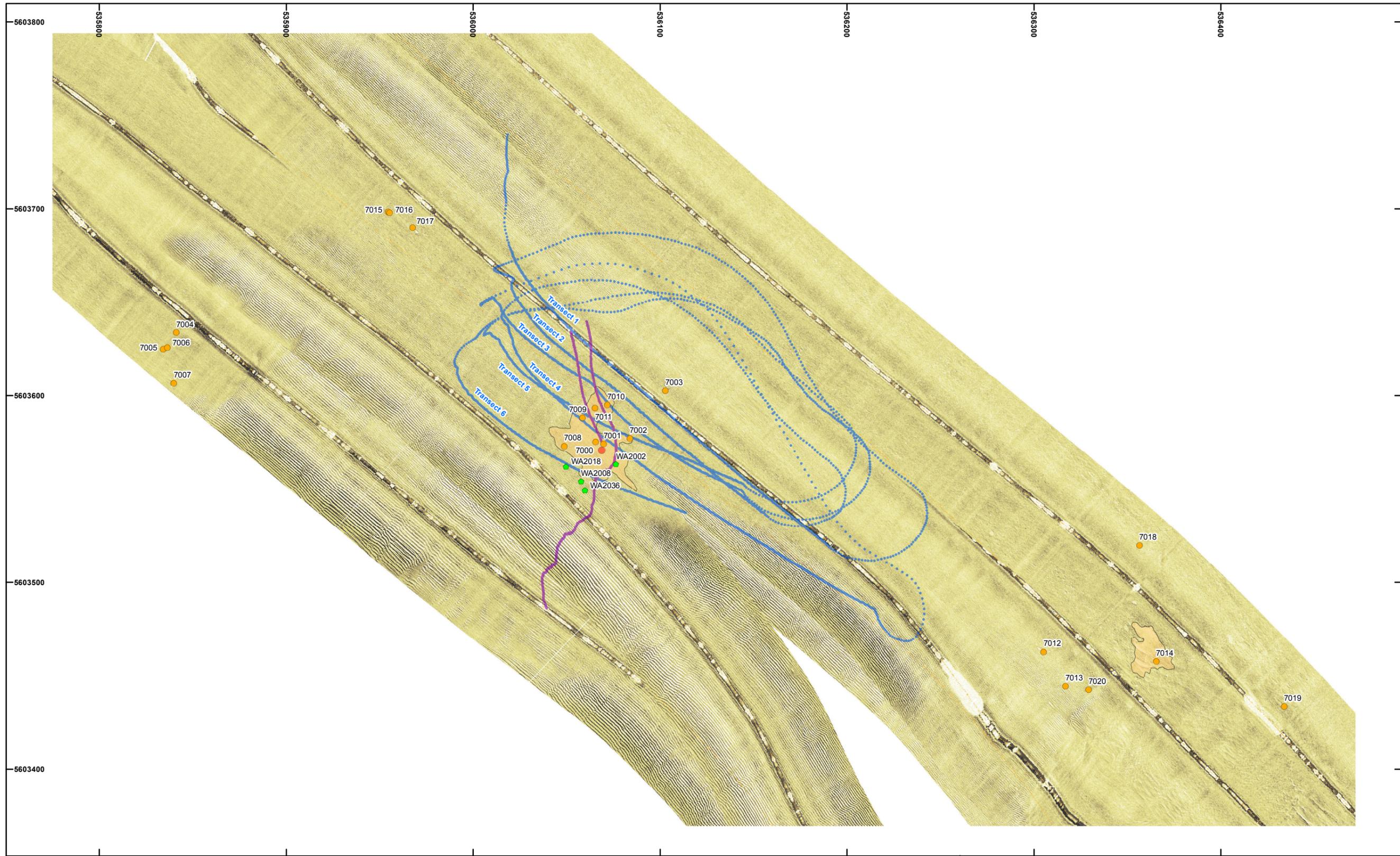
Wreck/Site Name	Unknown – The Shipwreck Project site 'Alexander'		
NRHE / UKHO No.	HE Region	Restricted Area	Principal Land Use
1144791	South-West	None	Coastland 1
Latitude (WGS84)	50.58286° N		
Longitude (WGS84)	2.4904° W		
Class Listing	Period	Status	
Unknown	Hanover	Non-designated wreck site	
Licensee	Nominated Archaeologist	Principal Ownership Category	
N/A	N/A	Other	
Seabed Owner	Navigational Administrative Responsibility		
Crown Estate	Nil		
Environmental Designations			
Other			
Seabed Sediment	Energy		
Sandy gravel	High		
Survival			
Very Poor			
Overall Condition	Condition Trend	Principal Vulnerability	
General satisfactory with minor localised problem	Stable	Mechanical degradation; seabed erosion; natural decline; unlicensed diving	
Amenity Value: visibility			
Limited			
Amenity Value: physical accessibility		Amenity Value: intellectual accessibility	
Full		L: Display	
Management Action	None		
Management Prescription	No management prescription required. Historic England to liaise with the stakeholders concerned to improve management regime.		
Notes:			
<p>The site consists of a large spread of ferrous material including three cannons, an anchor, mortar shells and iron T-shaped ballast blocks. There is potential for buried material to the SW, where sand waves seem to periodically cover and expose the site. Anecdotal evidence suggests that elephant tusks and a section of a wooden hull have been found in the proximity of the site.</p> <p>The material is considered to be relatively stable but subject to long term degradation principally due to mechanical erosion and abrasion from gravel and sand.</p> <p>The principal vulnerabilities are the sediment movements and related potential diving recoveries of newly exposed material as demonstrated by the known recoveries of artefacts from the wider area.</p> <p>Some finds recovered from the area are on display at the museum of Portland. The museum of Weymouth has a display dedicated to the <i>Alexander</i> wreck. The site is within the Chesil Beach and Stennis Ledges Marine Conservation Zone.</p>			
Risk is assessed as:	Low		
Data Source	Con/OT	Date & Initials	01/11/2016 Wessex Archaeology



 Coordinate system: WGS84 UTM Z30N	Charts from MarineFIND.co.uk. © Crown Copyright 2016. All rights reserved. Licence No. EK001-0582-MF0050.			
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Scale:	1:25,000 at A4	Illustrator:	KJF	
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Site location

Figure 1



Coordinate system:
WGS84 UTM Z30N

- Site location
- Geophysical anomalies
- Dropdown camera 1
- Location of features
- Extents of wreck (from geophysical survey)
- Dropdown camera 2

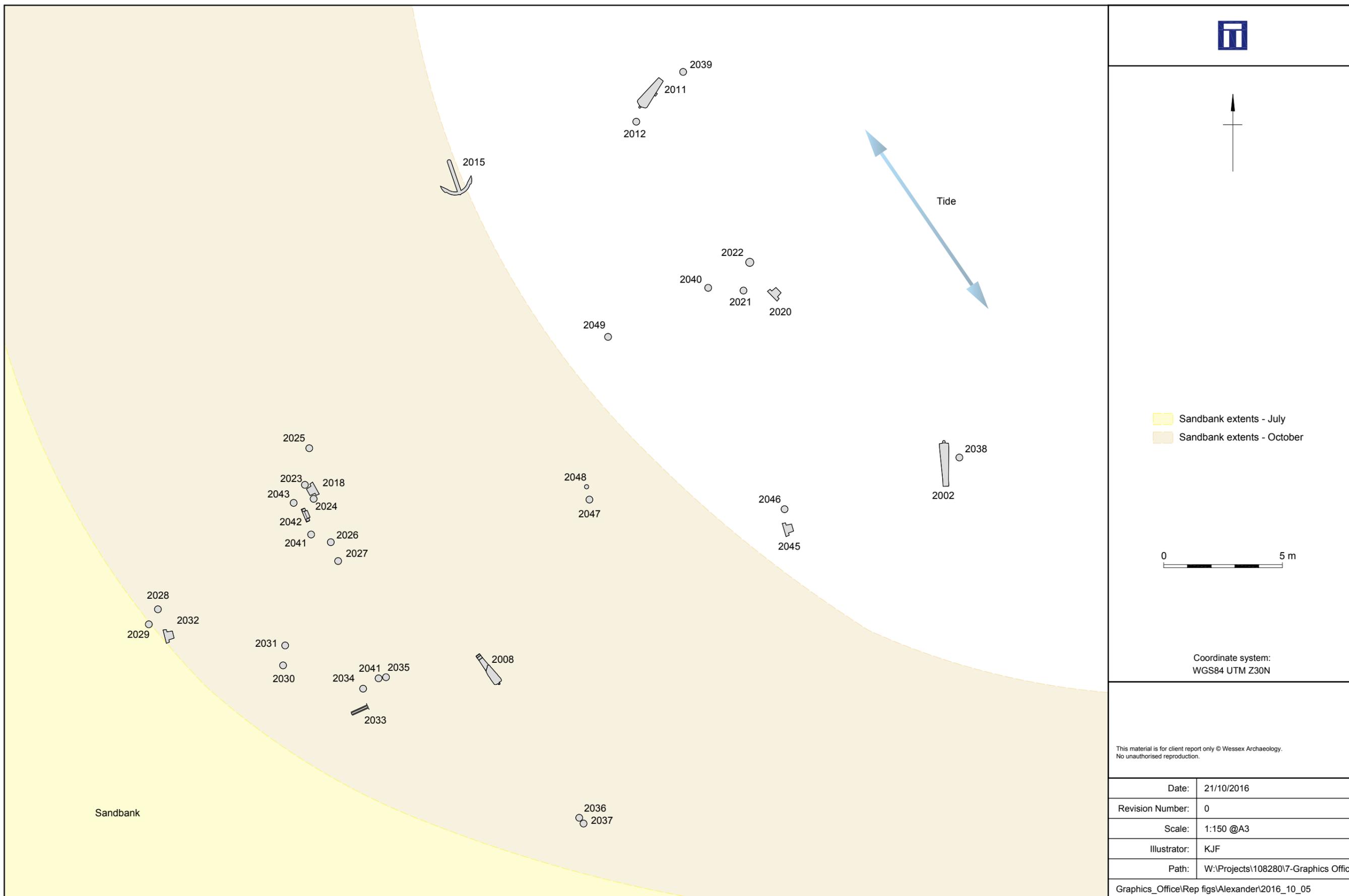


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Location of features and geophysical anomalies

Figure 2



Plan of the site

Figure 3

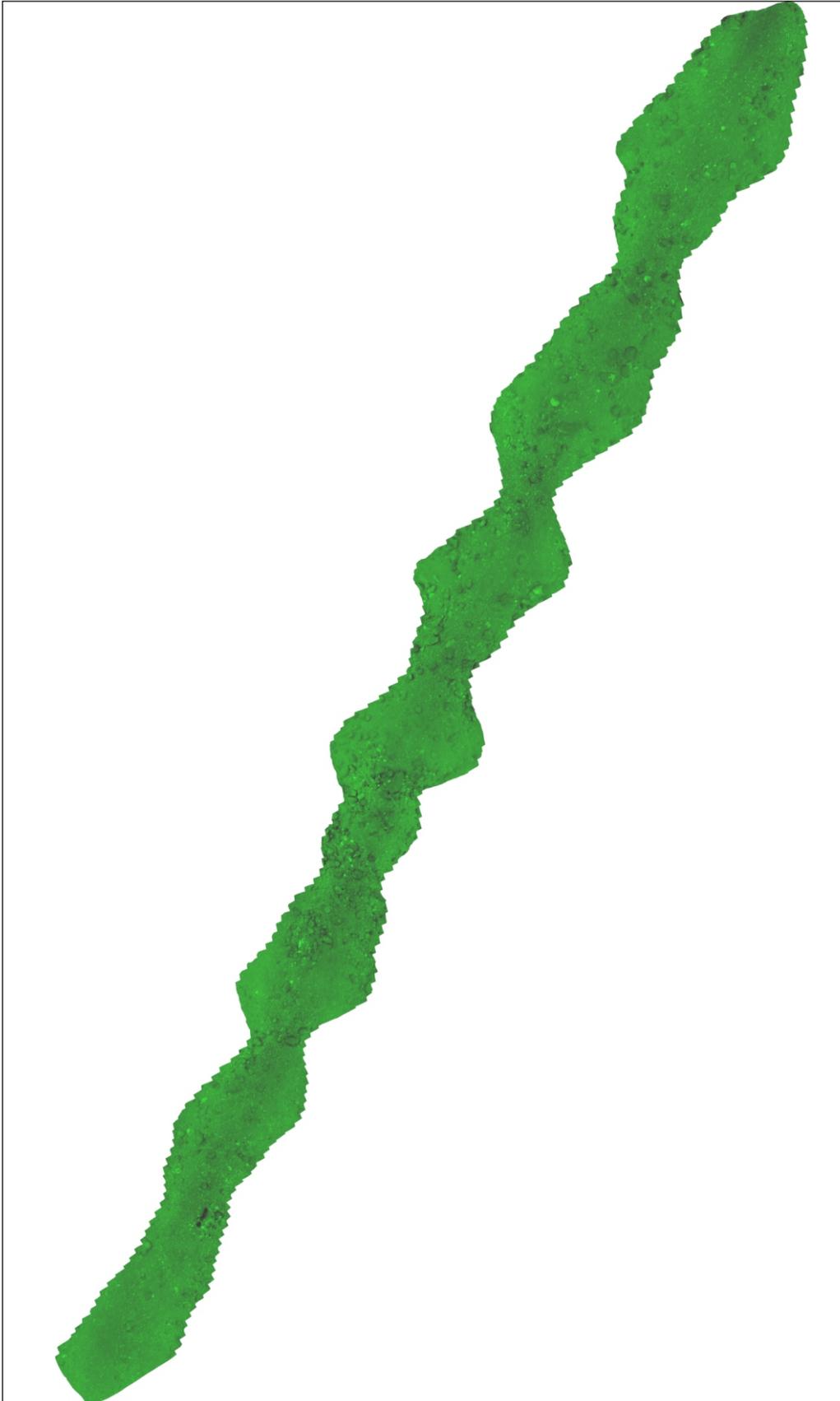


Plate 9: Transect 6

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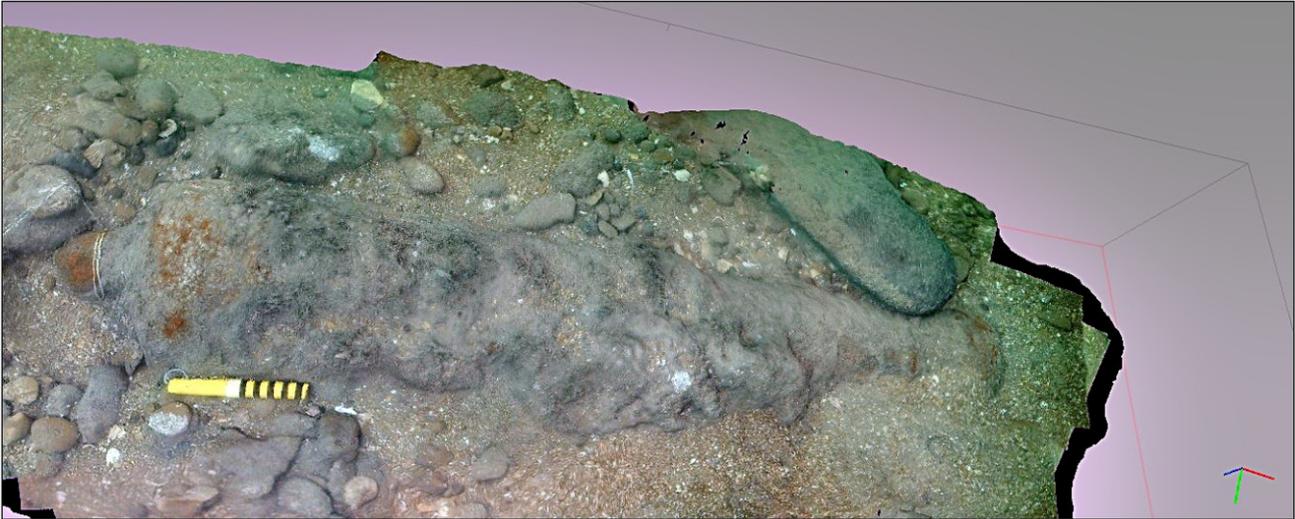


Plate 1a: WA2008



Plate 1b: Wa2008 cascabel



Plate 1c: WA2008 detail

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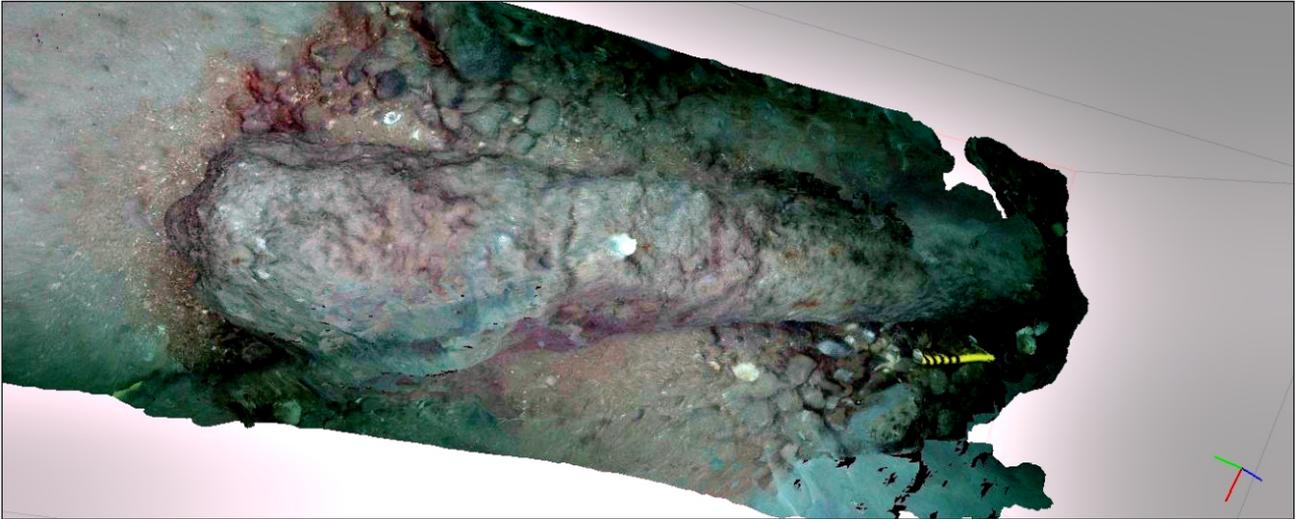


Plate 2a: WA2002



Plate 2b: WA2002 cascabel

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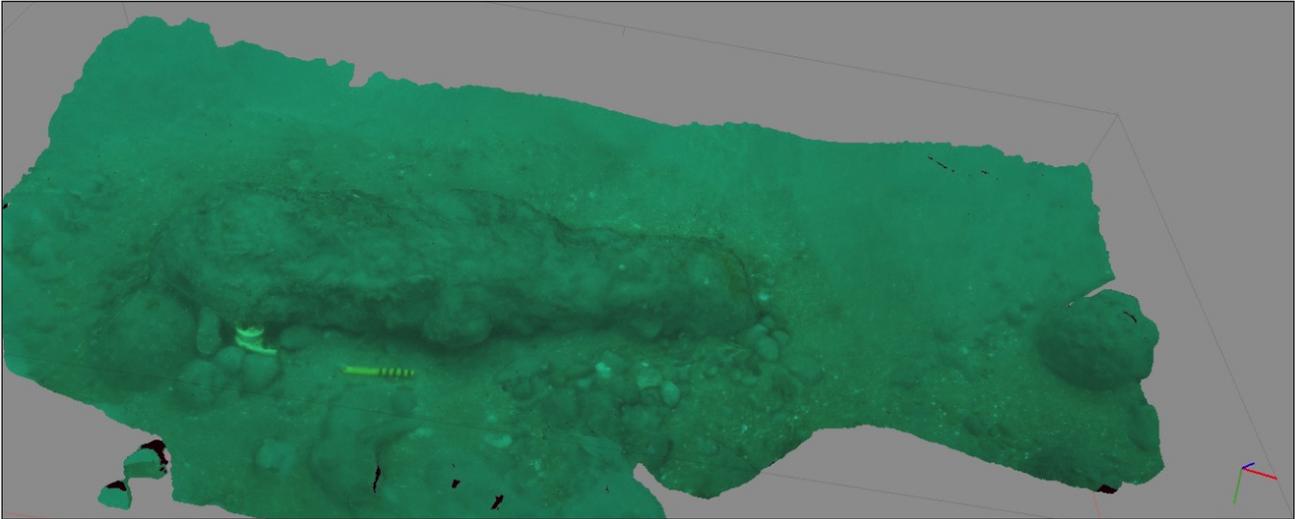


Plate 3a: WA2011



Plate 3b: WA2011 trunnion



Plate 3c: WA2011 detail of bore

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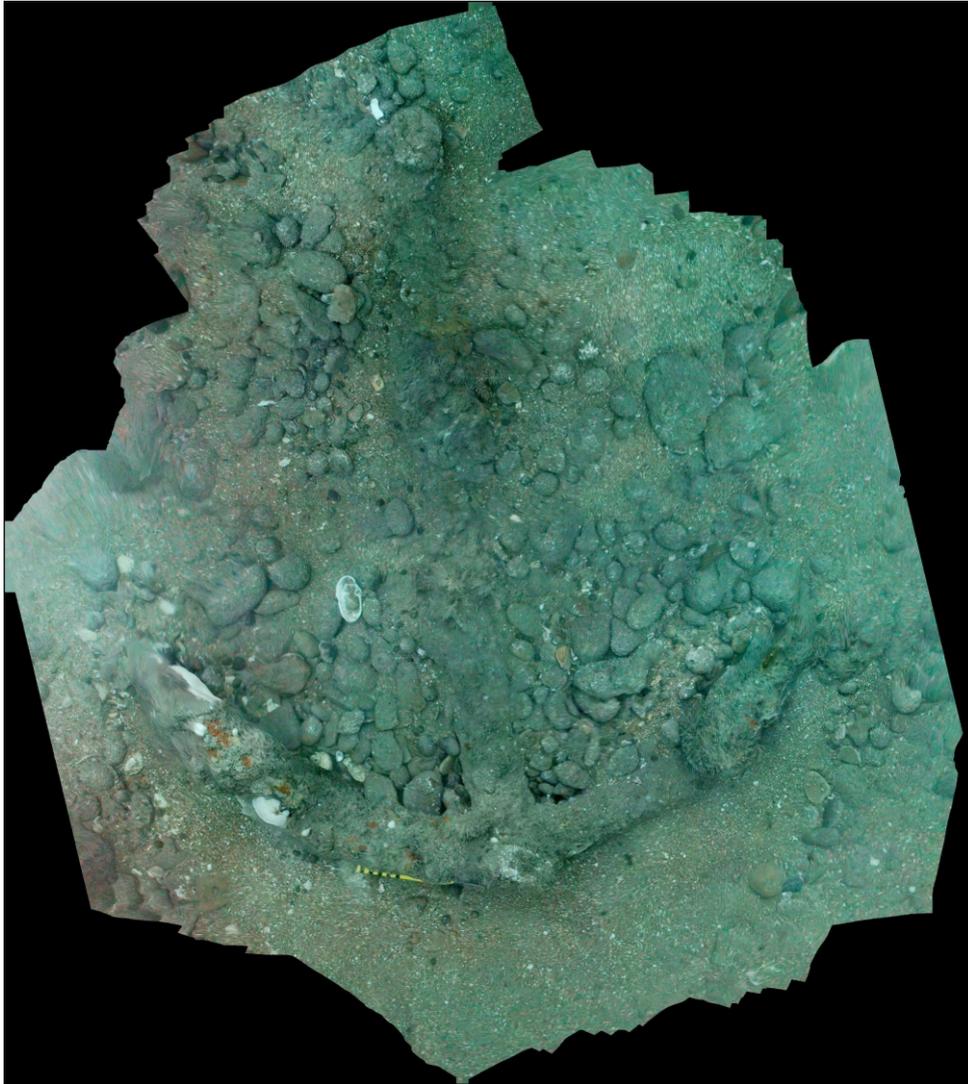


Plate 4a: WA2015

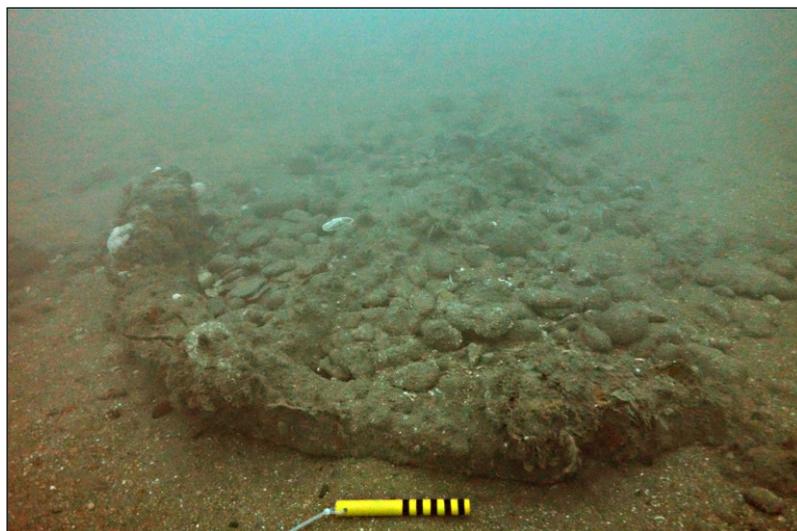


Plate 4b: WA2015

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Plate 5a: WA2018



Plate 5b: WA2020



Plate 5c: WA2032



Plate 5d: WA2033



Plate 5e: WA2036-7



Plate 5f: WA2047-8



Plate 5g: WA2049

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Plate 6a: WA2005

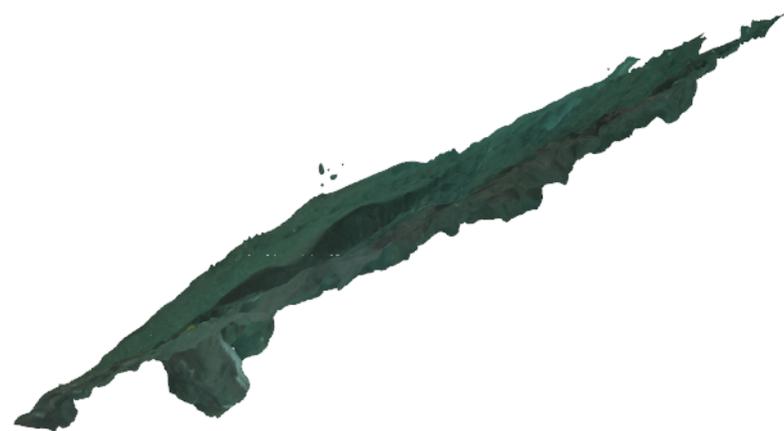


Plate 6b: WA2019



Plate 6c: WA2044

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