Forgotten Wrecks of the First World War

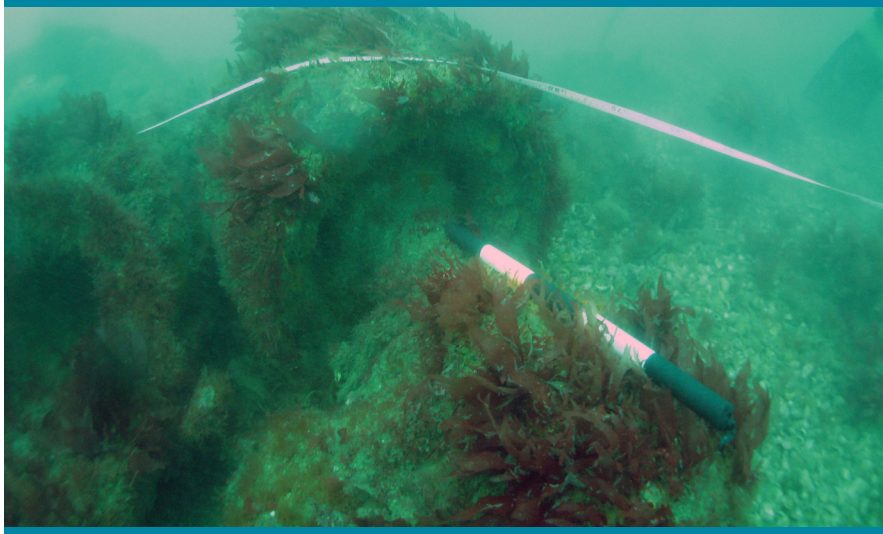
HMS *Velox*

Site Report

Maritime Archaeology Trust

heritage lottery fund

LOTTERY FUNDED



FIRST WORLD WAR CENTENARY

LED BY **IWM**

2018

FORGOTTEN WRECKS
OF THE FIRST WORLD WAR

HMS *VELOX*
SITE REPORT

LOTTERY FUNDED LED BY IWM

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i. Acknowledgments

The Forgotten Wrecks of the First World War project was generously funded by the Heritage Lottery Fund through their Heritage Grants Programme.

MAT would like to thank all the volunteers who gave up their time to help with research and artefact recording on HMS *Velox:* Roger Burns, Peter Crick, D Greene, Isobel Holley, John Langran, Erica Manley, and Richard Wyatt.

MAT staff involved in researching and reporting: Jan Gillespie, Laura Johansson, Jasmine Noble-Shelley and Julie Satchell

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1. Project Background

Forgotten Wrecks of the First World War is a Heritage Lottery Funded project dedicated to raising the profile of a currently under-represented aspect of the First World War. While attention is often focused on the Western Front and major naval battles like Jutland, historic remains from the war lie, largely forgotten, in and around our seas, rivers and estuaries.

With over 1,100 wartime wrecks along England's south coast alone, the conflict has left a rich heritage legacy and many associated stories of bravery and sacrifice. These underwater memorials represent the vestiges of a vital, yet little known, struggle that took place on a daily basis, just off our shores. The study and promotion of these archaeological sites presents a unique opportunity to better interpret them and improve physical and virtual access.

The project focuses on underwater and coastal sites from the Isle of Thanet in Kent, to beyond the Isles of Scilly, and over half way into the English Channel. The sites include merchant and naval ships, passenger, troop and hospital ships, U-boats, ports, wharfs, buildings and foreshore hulks. These sites, under water and on the foreshore, have been degrading and deteriorating due to natural and human processes for approximately 100 years and, as a result, are extremely fragile. In many cases, this project represents a final opportunity to record what remains on the seabed and foreshore before it is lost forever.

The project aims to characterise the nature and extent of the maritime First World War archaeological resource surviving on the south coast's seabed and around the coast. This will enable an understanding of maritime activity just off our shores during the conflict and provide a window onto some of the surviving sites. While it will not be possible to visit and record all c.1,100 vessels dating to the First World War lost off the south coast of England, a representative sample of sites have been selected for more detailed study, analysis and interpretation. This report collates information collected during the project, relating to one of the south coast's First World War wrecks, namely that of HMS *Velox.*

2. Methodology

General detail on the methodologies employed during the project are outlined within *Forgotten Wrecks of the First World War: Project Methodology Report*, this report section concentrates on approaches and resources in relation to HMS *Velox*.

2.1 Desk Based Historic Research

Research to identify material related to HMS *Velox* located a range of sources.

Online information/sources

The following is a list of websites in which information pertaining to the *Velox* was found:

Pastscape:	http://www.pastscape.org.uk/hob.aspx?hob_id=805467&sort=4&search=all&criteria=Velox&rational=q&recordsperpage=10
Wrecksite EU:	https://www.wrecksite.eu/wreck.aspx?1235
You Tube:	https://www.youtube.com/watch?v=caBZTi1exlM https://vimeo.com/73461624
uboat.net	https://www.uboat.net/wwi/boats/?boat=UC+5
Other URL:	www.portsmouth.co.uk/lifestyle/heritage/when-winnie-was-cared-for-by-crew-of-hms-velox-1-3575049
Historical RFA:	http://www.shipsnostalgia.com/showthread.php?t=2733&highlight=cobra http://www.shipsnostalgia.com/showthread.php?t=2722&highlight=viper

Records at The National Archives

Research was further extended through visits to view relevant material held at The National Archives at Kew:

What	Ref.	Where	Date accessed
Royal Naval Operations in the First World War	ADM 1-8438 329	TNA	2015

Geophysical Survey Data

Desktop research included studying bathymetric imagery of the wreck of HMS *Velox*. Data was kindly provided by the Maritime & Coastguard Agency: 2010 HI 1 323 South Wight 2m SB.

2.2 Associated Artefacts

While the Forgotten Wrecks project had a non-recovery policy, where possible, the project aimed to 'virtually reunite' artefacts historically recovered from the Forgotten Wrecks.

The following were consulted for information about artefacts associated with HMS *Velox*:

- Receiver of Wreck (RoW) Wreck Amnesty Database of reported finds;
- Divers and Dive Clubs
- Wrecksite EU search
- General online search

The following artefacts were uncovered:

RoW records:	A thermometer, lamp, five brass fittings and five lamp reflectors A porthole and railing flange An 8" porthole and a 9" porthole, both complete with cover and glass, and a brass ship's light An abrasive block, a plate, and a porthole

	A gauge, two thermometers, and turbine blades A brass lamp, two empty shell cases, and five dining plates
Other private collections:	Martin Woodward holds approximately 100 artefacts many of which are on display at the Shipwreck Centre and Maritime Museum, Isle of Wight (See Section 5 for details)

3. Vessel Biography: HMS *Velox*

HMS *Velox* (Figure 1) was chosen as one of the Forgotten Wrecks case study sites because it was part of the Snake class of Naval vessels, along with HMS *Viper* and HMS *Cobra*, that were notable for signaling the beginning of Royal Naval vessels using steam turbine propulsion. Prior to these vessels the reciprocating piston steam engine was used. This changed with the experimental craft *Turbinia,* the motor of which was invented by C. A. Parsons. The *Turbinia* used a compound steam turbine and impressed the Admiralty to the extent that in 1898 they commissioned Charles Parsons to build a destroyer using turbine machinery. This was the first turbine powered Naval vessel, HMS *Viper* (Laird Clowes, 1997). Both *Viper* and *Cobra* were lost in 1901 (see Section 3.4).

Figure 1: HMS *Velox* (Source: Wrecksite EU, no copyright stated)

3.1 Vessel Type and Build

HMS *Velox* was a British destroyer which was originally built as a private venture by Parsons Marine and called *Python*. Discussions over the price and terms and conditions were carried out until the vessel was finally purchased by the Admiralty in June 1902 and renamed *Velox*. Following the loss of the *Viper* and *Cobra* in 1901*,* the Royal Navy did not again use snake names for Destroyers. *Velox* was laid down at Hawthorn Leslie & Co's Hebburn Tyneside shipyard on 10 April 1901 and was launched on 11 February 1902.

The vessel was powered by two sets of compound steam turbines driving a separate propeller shaft with the high-pressure turbines driving the outer shafts and the low-pressure turbines the inner shafts giving four shafts in all (Figure 2). Two propellers were fitted to each shaft. A new feature was that a pair of small triple expansion engines (rated at 150 indicated horsepower (110 kW) each) could be coupled to the inner, low-pressure turbine shafts for efficient cruising (Lyon, 2001).

The ship had a length overall of 215ft (65.53m) and 210ft 3⁄8in (64.02m) between perpendiculars, with a beam of 21ft 3⁄8in (6.41m) and a draught of 5ft 11in (1.80m). Displacement was 400 long tons (406 t) normal and 462 long tons (469 t) deep load (Friedman, 2009). As well as the normal rudder at the ship's stern, a retractable rudder was fitted forward to aid manoeuvrability when running astern. *Velox* had three funnels and standard armament for thirty-knotters which was a QF 12 pounder 12 cwt (3in (76mm)) calibre gun on a platform on the ships conning tower (also used as the ship's bridge), with a secondary armament of five 6-pounder guns, and two 18in (450mm) torpedo tubes.

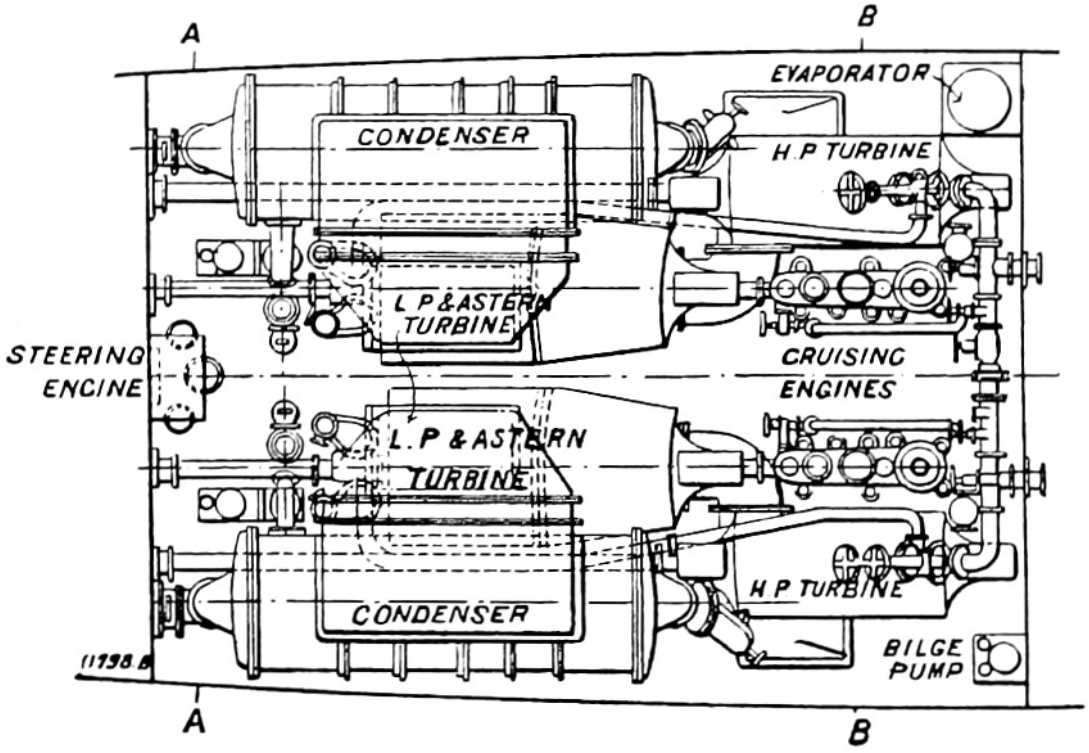


Figure 2: Plan view of the machinery layout of HMS *Velox* (Source: Wikipedia - public domain)

3.2 Pre-war Career

The loss of the *Viper* and the *Cobra* meant the loss of both prototype turbine Torpedo Boat Destroyers. Parsons were already building a private venture vessel with parts being sub-contracted from Hawthorn Leslie and Company. The construction of the ship was financed by C J Leyland, one of Parsons directors. The ship had very similar dimensions to *Viper* but there were some changes to the machinery layout. The low pressure and astern turbines were combined and the space saved was used to provide two high pressure reciprocating engines, in line and coupled to an extension to the low pressure turbine shaft to be used when cruising speeds of up to 12 knots were required (Lyon, 1996). Therefore during high speeds the turbines operated alone but when the vessel was cruising, steam was supplied to the reciprocating engines which then exhausted to the turbine plant (Griffiths, 1997 cited in NMR Monument Report, ID 805467). The ship was also equipped with a hand operated retractable bow rudder for going astern. Parsons expected the vessel to match the high speed of the *Viper* with the same coal consumption rates, and to use around half as much coal as the *Viper* at cruising speeds (Lyon, 1996).

On trials in January 1903 HMS *Velox* achieved a maximum of 34.25 knots and an average speed of 27.25 knots in the four hour trial. The slow speed reciprocating engines producing a cruising speed of only 10.35 knots. With plans to increase the fleet cruising speed to 15 knots, this was too slow. In terms of coal consumption, despite Parsons expectations *Velox* had a similar operational rate to the *Viper* and *Cobra*. There was no gain from the reciprocating engines of the *Velox*. In 1907 the

reciprocating engines were replaced with cruising turbines but this did not produce much improvement in efficiency. Other problems reported with the vessel included a limited speed astern of five knots, a need to warn the Engine Room in advance of going astern, generally awkward handling, and a lack of seaworthiness due to the condensers being fitted above the water line. In 1909, following an engine breakdown off Land's End, *Velox* was removed from its division and assigned as an instructional vessel attached to HMS *Vernon*.

On 30 August 1912, the Admiralty directed that all destroyers were to be grouped into classes designated by letters based on contract speed and appearance (Gardener et al. 1985). As a three-funnelled destroyer, *Velox* was assigned to the C Class. A special feature of all class C boats is that they all have three funnels, a turtle back bow and a big bridge (Moore, 2001).

3.3 First World War Use & Loss

HMS *Velox* was assigned to the local patrol flotilla at the outbreak of war and went out on patrol in the eastern Solent as one of the Portsmouth Local Defence Flotilla destroyers. On 25 October 1915 the vessel was on patrol when condenser problems forced them to seek calmer waters near the Isle of Wight, there the ship hit a German contact mine laid by UC-*5* off the Nab Tower, north east of Bembridge Ledge. The explosion occurred at 3:45 pm and the ship was still afloat at 4:30 pm when HMS *Conflict* prepared to take the ship in tow but the captain realised that a tow to safety was not possible.

The Commonwealth War Graves record the names of four people who lost their lives during the sinking, see Section 3.5 below.

Two men who were in the engine-room stated that they heard the mine scraping down the hull before exploding when in contact with the propulsion and steering gear (therefore exploding in the area of the stern). The captain's testimony relates how he went down into the wardroom near the stern of the vessel and one injured man was found in the wreckage, and the First Lieutenant had crawled up onto the deck with both legs broken. While serious, the damage was not catastrophic and he simply states that a 'drifter' was despatched to St. Helens to fetch a doctor. Gunner Wilmore mentions just four missing hands in the minutes.

A transcription of the ensuing Court of Enquiry regarding the loss of Velox, held three days after the sinking is included in Appendix 8.1.

3.4 Associated Vessels

3.4.1 HMS *Viper*

Delivery of the *Viper* was to be made in 15 months and a speed capability of 31 knots was to be guaranteed. Parsons sub-contracted the construction of the hull and provision of the boilers to Hawthorn Leslie and Company at Hebburn on the River Tyne, but his firm took full responsibility for the design, construction and speed. The engines were a quadruple screw arrangement with Parsons turbines on four shafts (Lyon, 1996). High pressure turbines drove the outer shafts and low pressure units the inner shafts, with astern motors on the two inside shafts. There were two propellers on each shaft, one inboard and one outboard of the shaft A-bracket. The sea trials were successful in terms of speed with a one-hour full power trial at 36.58 knots and the three-hour trial giving an average speed of 34.32 knots (Ships Nostalgia, 2005a). The ship was accepted into service in June 1900 as HMS *Viper* (Figure 3).

Figure 3: HMS *Viper* steaming at 36 knots during full power trials in 1900 (Source: Maritime Photo Library)

It was only after this that *Viper's* operational problem emerged, with consumption of coal increasing as speed dropped. This resulted in a ship with an uneconomical engine and a performance reliant on the stamina of the stokers onboard. This coal consumption compared unfavourably with that of contemporary reciprocating engine powered Destroyers. The *Viper* did improve on these vessels in other ways, those powered with reciprocating engines had been shown to be unsuited to sustained high speed, suffering from severe vibrations. By contrast the *Viper* only suffered from vibration at high speeds, and then comparatively little (Lyon, 1996). The *Viper* had a short career, on 3rd August 1901, whilst taking part in manoeuvres in the Channel Islands, the *Viper* ran over the Renonquet reef whilst travelling at speed in fog. The vessel foundered heavily in shallow water and was heavily salvaged. Following this the remains of the *Viper* were destroyed by the Navy, possibly to prevent information regarding the turbine propulsion systems becoming public knowledge.

3.4.2 HMS *Cobra*

While Charles Parsons was negotiating with the Admiralty for the construction of the turbine powered destroyer that became HMS *Viper*, Armstrong's were also negotiating with Parsons for a set of turbines and boilers for a stock destroyer they intended to build at Elswick. The Armstrong's contract was signed by Parsons in February 1898 and in December 1899 Armstrong's offered the vessel to the Admiralty. It was inspected by the Admiralty Assistant Constructor and found to be structurally below Royal Navy standards, but after prolonged negotiations the destroyer was purchased in September 1901 and named HMS *Cobra* (Figure 4). As well as the structural problems the *Cobra* had the same coal consumption issues as the *Viper,* and could maintain full speed for no more than three or four hours. On 17 September 1901 HMS *Cobra* sailed from the Tyne bound for Portsmouth, where the armament was to be fitted. Soon after passing Flamborough Head the vessel met bad weather and on 18 September the *Cobra* broke into two, sinking stern first with about 30 feet (c.9m) of the vessel remaining above the water for a short time. This could have been due to the stresses of wave action, but it is also possible that the *Cobra* struck an item of floating debris which caused enough stress to split the hull in two (Lyon, 1996). The Committee of Enquiry decided that HMS *Cobra* had been inadequately designed and constructed. *Cobra* is the only Royal Navy destroyer ever to be lost by foundering through stress in heavy weather (Ships Nostalgia. 2005b). The *Cobra's* position is unknown, it was marked shortly after the time of the wreck by a

Swedish salvage vessel *Herakles* and a Swedish diver made a number of dives on the bow, but later searches were not able to relocate it (Young, 2003).

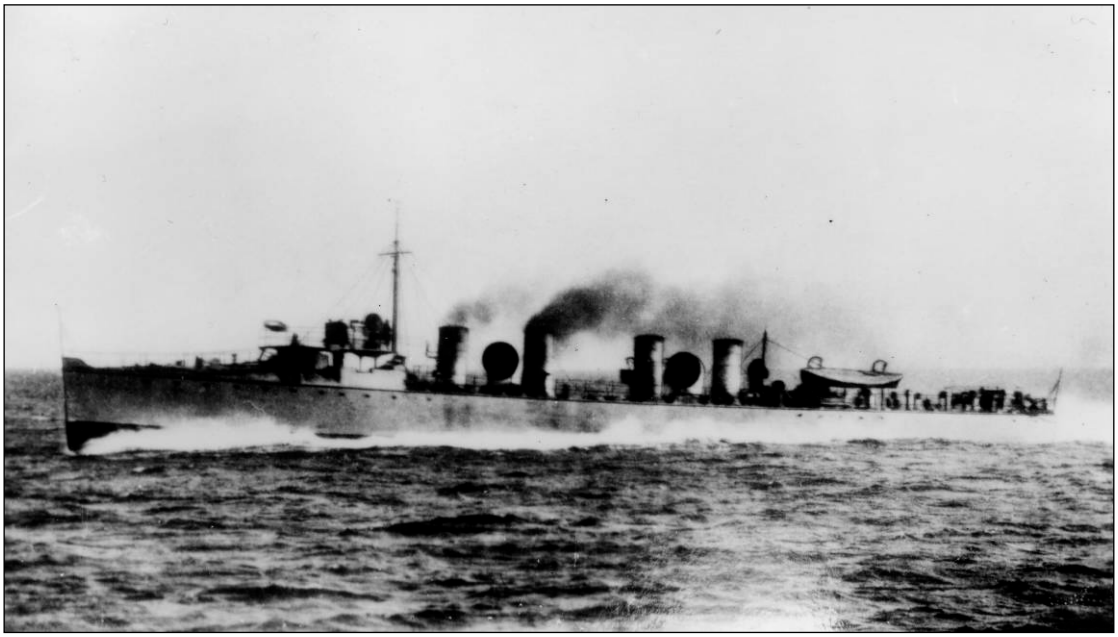


Figure 4: HMS *Cobra*, the second steam powered turbine destroyer (source: Maritime Photo Library).

3.4.3 UC-*5*

UC-*5* was the German submarine that laid the mine that HMS *Velox* hit. The submarine was commanded by Oberleutnant zur see Herbert Pustkutchen who sank 84 ships and damaged 13. He died on 27 May 1917 off the Isles of Scilly when in command of UC-*66*. UC-*5* was a UC-I type submarine which was eventually grounded on the Shipwash Shoal on 27 April 1916 when the boat was scuttled but the charges failed to explode (u-boat.net, 2018).

3.5 People associated with HMS *Velox*

Although the number of crew lost is conflicting between sources (see 3.3), the four crew members listed as lost when HMS *Velox* sank (Wrecksite EU from Commonwealth War Graves Commission) are as follows:

William Walter Allaby, age 47, Able Seaman (no. 125612(PO)), HMS *Velox*, Royal Navy, †25/10/1915, Son of John and Sarah Ann Allaby. Born at Aston, Cheshire.
Memorial: Runcorn Cemetery

James Thomas Hewett, Age not listed, Officers Steward 2nd Class (no. L/3277), HMS *Velox*, Royal Navy, †25/10/1915,
Memorial: Portsmouth Naval Memorial

Kenneth Macaulay, Age 23, Seaman (no. 4448A), HMS *Velox*, Royal Naval Reserve, †25/10/1915, Son of Angus and Catherine MacAulay, of 19, Breasclete, Stornoway, Ross-shire.
Memorial: Chatham Naval Memorial

Francis Henry Whelan, Age 35, Officer's Steward 2nd Class (no. L/5864), HMS *Velox*, Royal Navy, †25/10/1915, Son of John and Margaret Whelan, of Dublin.
Memorial: Portsmouth Naval Memorial

An article in the Portsmouth News (Portsmouth News, 2012), tells of a pet monkey called Winnie who was kept by a sailor on the *Velox*. The monkey allegedly underwent an operation for an abscess on the head and was an outpatient for 10 days being brought back each day to the hospital by his sailor keeper. Figure 5 is believed to have been taken shortly before the First World War and shows the sailor and Winnie after having a bath.

Figure 5: Winnie the pet monkey on board *Velox* with his sailor keeper just before the First World War (Source: Unknown)

3.6 Post-loss Activity

The wreck was sold by the Ministry of Defence in 1925 to the Southern Salvage and Towing Company. In 1970 the wreck is reported as sold to either Metal Recoveries (Orkney) Ltd. or Metal Industries (Orkney) Ltd. of Newhaven, Sussex (NMR Monument Report, ID 805467). There is a current company listed as Metal Recoveries (Newhaven) Ltd., but this has only been trading since 1989 so is not a likely candidate. The other possibility would appear to be Metal Industries Ltd., previously known as Metal Industries (Salvage) Ltd. based in Glasgow and founded in 1944 that has not filed accounts since 1987. This was a company based in Scotland that carried out salvage work on ships.

Following this sale, it was reported that nothing remained but lifting cables and it was presumed that the wreck was recovered.

Survey prior to the 1970s focused on sweeps and echo soundings to establish the least depth over the wreck. The wreck was relocated in a survey in 1976 when it was said to lie in two parts. Survey in 1978 recorded the wreck as lying north to south with the bows missing and the boilers the highest part. Reports from 1985 describe the site as a spread of broken wreckage 100 metres by 25 metres and hardly proud of the bottom, except for a section of pipe that has been snagged and hauled off the seabed to stand clear to approximately 5 metres (NMR Monument Report, ID 805467).

The wreck is a popular dive site and has been frequently dived by sports divers over a period of years. The site has been adopted under the Nautical Archaeology Society's (NAS) Adopt a Wreck Scheme.

4. Seabed Remains

4.1 Site Location and Environment

The site of HMS *Velox* lies approximately 1.5 miles east of Bembridge on the southern margin of the east Solent (Figure 6) in position 50.69194 -1.0347 (UKHO). The seabed on which the wreck lies is flat and level and comprises a mixture of sand and gravel. The sediment movement and tidal/wave regime do not appear to be impacting upon the remains of the wreck.

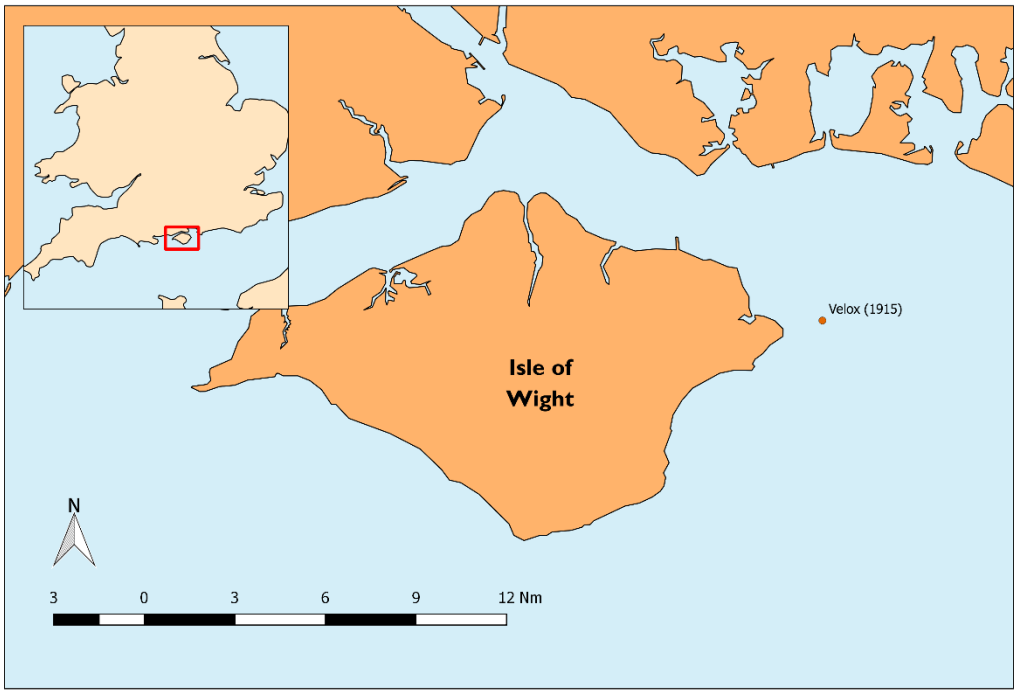


Figure 6: Location of HMS *Velox*

4.2 Description of Surviving Vessel Remains

The geophysical image of HMS *Velox* demonstrates that there are few coherent structural remains, surviving features are scattered around the seabed covering an area approximately 30m by 20m (Figure 7).

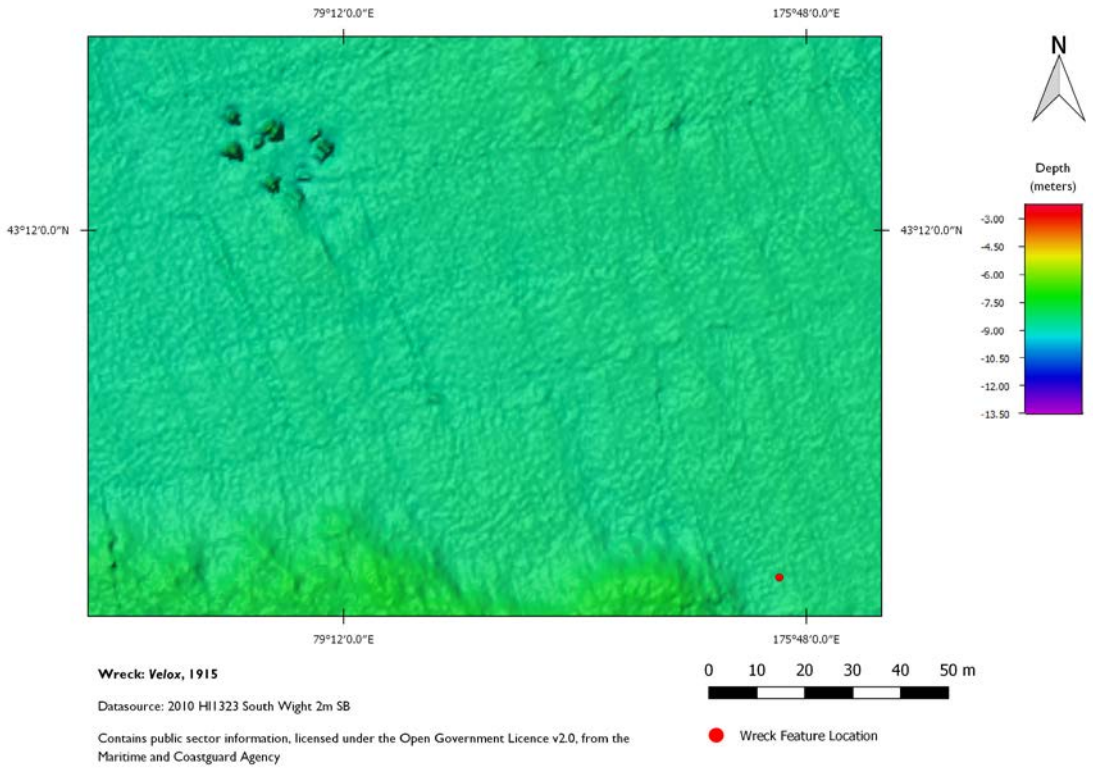


Figure 7: Geophysical image of the remains of HMS *Velox* indicate the remains are scattered (Contains public sector information licensed under the Open Government Licence v2.0 from the Maritime and Coastguard Agency).

The remains of the *Velox* are located in around 13m of water. Diver survey carried out by the Maritime Archaeology Trust recorded the height of the remains above the seafloor as 0.5-2 metres, except for a section of pipe standing approximately 3 metres above the seabed. The observable archaeological features at the site consist of a dispersed range of vessel parts. There is no coherent hull structure visible on the site, presumably as a result of the salvage operations believed to have been carried out (see Section 3.6) and the dispersal of remains using explosives (Naval History.net). The features recorded have been located on the annotated measured sketch of the site seen below in Figure 8. The survey also identified points that could potentially be used for future monitoring, and recorded a photographic and video survey of the features on the measured sketch.

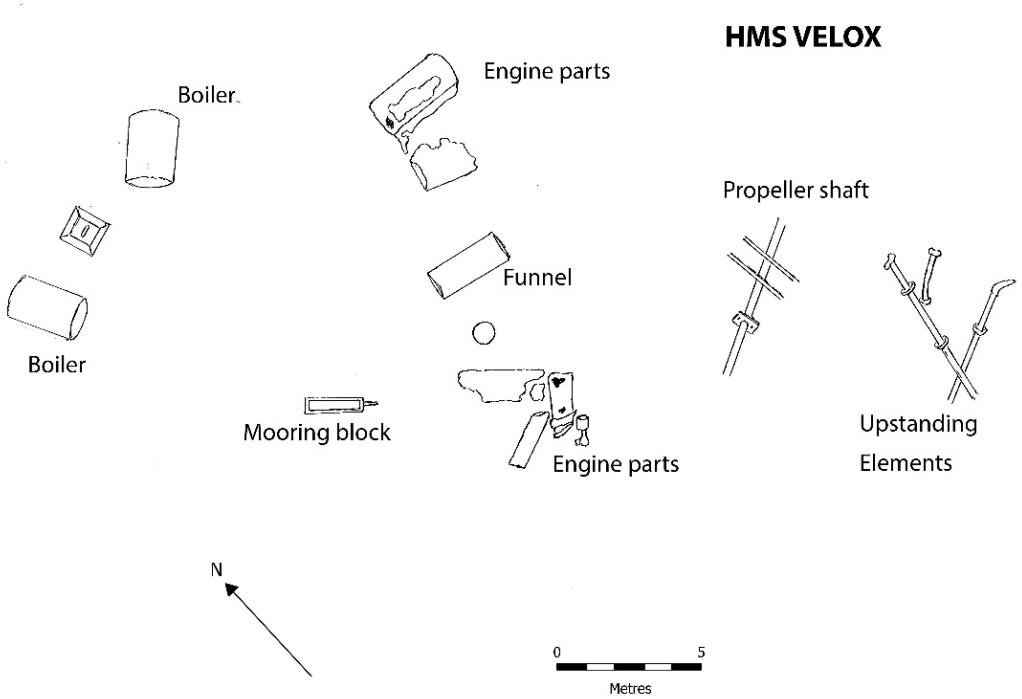


Figure 8: Annotated measured sketch of HMS *Velox*

The central area of the site, the engine parts, the funnel, and the eastern mooring block (as seen on the measured sketch in Figure 8) have been subject to a measured survey with distances between the features and the dimensions of the features themselves recorded. The western portion consisting of the two boilers and the mooring block, and the eastern portion consisting of the two sections of shaft, have been located by measuring distances to the central features.

Diver searches around the area represented in Figure 8, indicates these are the majority of the surviving features on the site, but there is a possibility that more material may lie further to the west.

Figure 9: Engine part visible on seabed

The site consists of a number of individual features separated by areas of seabed. In the central area of the site lies the remains of part of the engine (Figure 9) and a funnel (Figure 10).

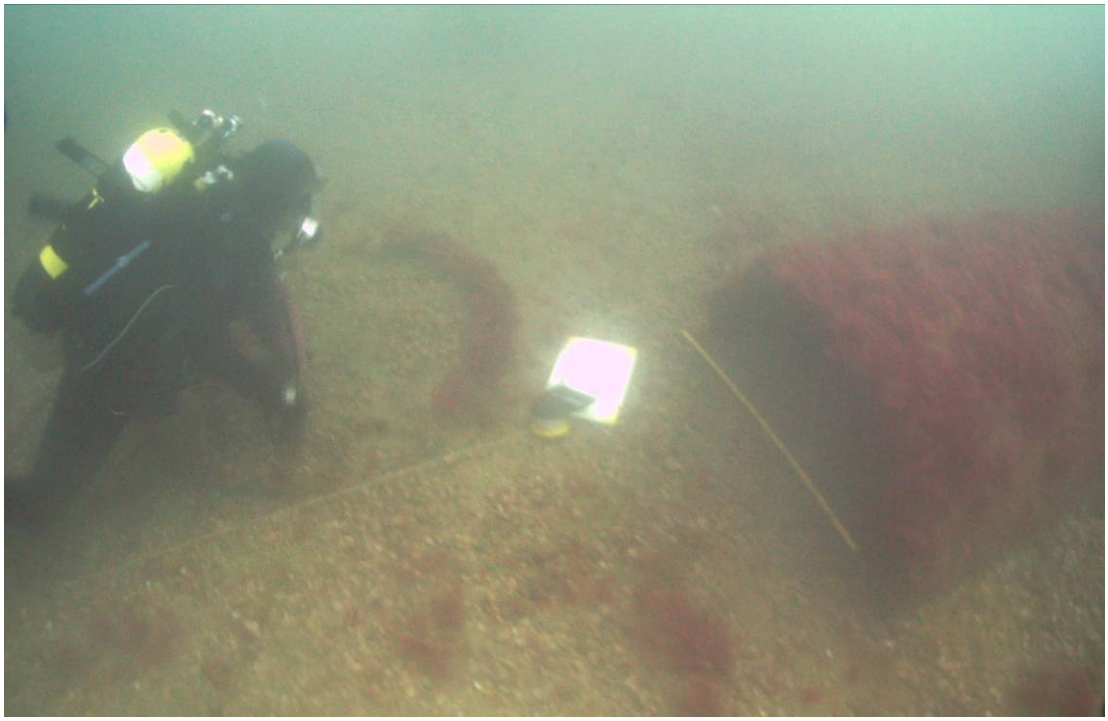


Figure 10: Diver and funnel

Also in evidence on the seabed are the remains of what is presumed to be a portion of the propeller shaft (Figure 11).

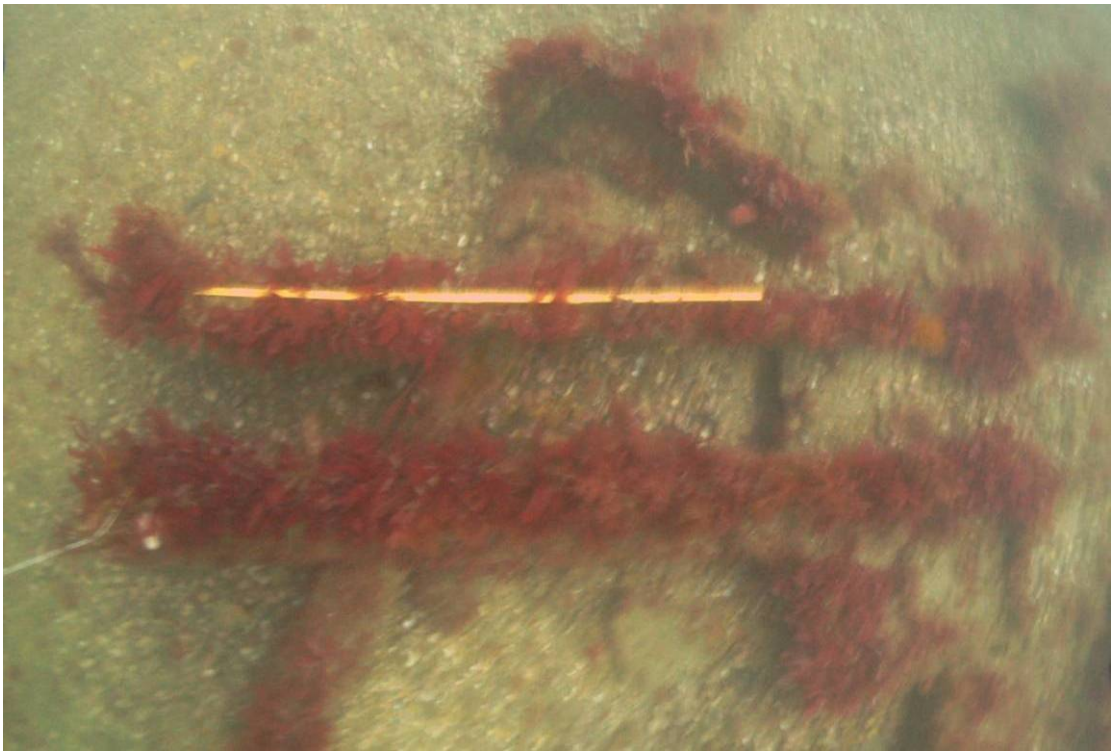


Figure 11: Shaft visible on seabed

To the far east of the site are some upstanding elements, reaching a height of approximately 3 metres (Figure 12). These appear to be more sections of the shaft seen in Figure 11, presumed to be part of the propeller array.

Figure 12: Upstanding elements of structure

The site also shows evidence of previous salvage/diver activity, with a series of concrete mooring blocks scattered across the area (Figure 13).

Figure 13: Concrete mooring block

A video of the site produced by MAT can be viewed at: https://www.youtube.com/watch?v=caBZTi1exlM

The sediment movement and tidal/wave regime does not appear to be impacting upon the wreck, but future monitoring over a period of years will provide more information in this respect. The echo sounder survey of the site in January 1990 noted that there was no scour around the wreck (UKHO wreck report cited in NMR Monument Report, ID 805467). The impression of stability is further reinforced by reference to the recorded height of the vessel above the seafloor. Echo sounder surveys conducted in 1977, 1980, 1985 and 1990 record a difference of 1.9 to 2.8 metres between the general depth and the least depth obtained during survey (NMR Monument Report, ID 805467). The geophysical image at Figure 7 shows no significant difference in this survey undertaken in 2010, as the highest upstanding feature is between these parameters.

5. Recovered Archive

Artefacts recovered from the *Velox* are held within a number of collections. The Receiver of Wreck (RoW) records provide detailed information for objects which were either reported during the 2000 Amnesty, or have been reported subsequently:

RoW Records:
Ships equipment: Fixtures and fittings

- Lamp, five brass fittings and five lamp reflectors (Droit A/779)
- Porthole and railing flange (Droit A/1281)

- 8" porthole and a 9" porthole, both complete with cover and glass, and a brass ship's light (Droit A/1305)
- Port hole (Droit A/2114)
- Gauge and turbine blades (Droit A/2785)
- Brass lamp (Droit A/3863)

Ships equipment

- A thermometer (Droit A/779)
- Two thermometers (Droit A/2785)
- Abrasive block (Droit A/2114)

Armament

- Two empty shell cases (Droit A/3863)

Personal

- Plate (Droit A/2114)
- Five dining plates (Droit A/3863)

Private collections

Martin Woodward holds a private collection of approximately 100 artefacts from HMS *Velox* which are located at the Shipwreck Centre and Maritime Museum at Arreton on the Isle of Wight. Staff from MAT and volunteers have been recording these artefacts. Appendix 8.2 provides more details of these artefacts, they are considered as a collection by artefact class below:

Fixtures and fitting	24
Galley	7
Navigation	1
Ordnance	6
Personal	13
Ships equipment	4
Ships Structure	2
Other items	22

An example of ships equipment is a brass candle holder (Figure 14).

Figure 14: Brass candle holder (FW0250)

A fire brick that was recorded using photogrammetry and a 3D computer model produced is available to view at https://sketchfab.com/models/767a93473cc946b2bbfa435348e63534. The brick (Figure 15) made up part of the coal burning furnace that heated water for the Parsons Marine steam turbines, a fairly new, but important form of technological advancement when *Velox* was launched in 1902.

Figure 15: Fire brick (ID FW0254) has also been produced as a 3D computer model

The Shipwreck Centre and Maritime Museum also have a model of the *Velox* built by A White of Cowes (Figure 16), and a model built by Steve Pickering can be seen sailing in Richmond Park at https://vimeo.com/73461624

Figure 16: Model of HMS Velox at the Shipwreck Centre on the Isle of Wight

6. Site Significance & Potential Further Research

Despite their issues with operational speeds and efficiency, the Torpedo Boat Destroyers did demonstrate that turbines could be used as a propulsion system in ships. These vessels served an important purpose as prototypes, and their construction set an example that led to the installation of turbines in all subsequent British destroyers after the River or E class of 1903.

HMS *Dreadnought* is the most significant example of the next stage in the use of steam powered turbines in the Royal Navy. *Dreadnought* entered into service in 1906 as a battleship of the British Royal Navy. The vessel was so significant in terms of the development of naval technology that the name 'Dreadnought' came to be associated with an entire generation of battleships, while the generation of ships it made obsolete became known as pre-Dreadnoughts. The *Dreadnought* was important in terms of the development of armament, but was also key as an example of a successful vessel powered by steam turbines, making it the fastest battleship in the world at the time of completion.

The use of steam powered turbines in the *Dreadnought* signified a key advancement that would not have been possible without the earlier development of the steam turbine powered vessels the *Viper*, the *Cobra* and the *Velox*. HMS *Velox* is the only pre-*Dreadnought* turbine equipped Royal Naval vessel found within the coastal limits of England, as such is a unique survival of this type of vessel.

7. Bibliography

Websites

Naval-History.Net, (2018), World War 1 at Sea - Royal Navy Vessels Lost and Damaged, Velox. http://www.naval-history.net/WW1NavyBritishBVLSaRN1510.htm

Pastscape (2015)/NMR Monument Report. HMS Velox. Available at: http://www.pastscape.org.uk/hob.aspx?hob_id=805467&sort=4&search=all&criteria=Velox&rational=q&recordsperpage=10 Accessed [20/6/17]

Portsmouth News 2012. When Winnie was cared for by crew of HMS *Velox*. Available at: www.portsmouth.co.uk/lifestyle/heritage/when-winnie-was-cared-for-by-crew-of-hms-velox-1-3575049 [Accessed 29/8/18]

Ships Nostalgia. 2005a. HMS *Viper* - The first steam turbine destroyer. (Updated 5th September 2005) Available at: **http://www.shipsnostalgia.com/showthread.php?t=2722&highlight=viper** [Accessed 29/8/18]

Ships Nostalgia. 2005b. *The* HMS *Cobra* disaster. (Updated 6th September 2005) Available at: **http://www.shipsnostalgia.com/showthread.php?t=2733&highlight=cobra** [Accessed 29/8/18].

Uboat.net, (2018). UC-*5*. Available at: **https://www.uboat.net/wwi/boats/?boat=UC+5** Accessed [29/8/18].

Wrecksite EU, (2018). HMS *Velox*. Available at: **https://www.wrecksite.eu/wreck.aspx?1235** [Accessed 29/8/18].

Books

Friedman, N. (2009). *British Destroyers: From Earliest Days to the Second World War.* Barnsley, UK: Seaforth Publishing. ISBN 978-1-84832-049-9.

Gardiner, R., Gray, R. (1985). *Conway's All The World's Fighting Ships 1906–1921*. London: Conway Maritime Press. ISBN 0-85177-245-5

Laird Clowes, W. (1997). *The Royal Navy – A History from the Earliest Times to 1900.* Volume 7. Barnsley: Chatham Publishing.

Lyon, David (2001). *The First Destroyers*. London: Caxton Editions. ISBN 1-84067-3648

Lyon, D. (1996). *The First Destroyers.* Barnsley: Chatham Publishing.

Moore, J (2001). *Janes Fighting Ships of World War 1, John Moore (Forward)*. p.77

Young, R. 2003. *The Comprehensive Guide to Shipwrecks of the East Coast: Volume One* (1766-1917). Stroud: The History Press Ltd.

8. Appendices

8.1 Transcription of ADM 1/8438/329

Loss of HMS VELOX. Court of Enquiry. 1915.

Notes –

1. Where the typescript within the above document is indistinguishable it is indicated by %.
2. The sequence of contents is given in the same order as the parent document.
3. Where imperial measure is quoted, the metric equivalent has been inserted within the transcription.

Letter 8 March 1916 to Commander-in-Chief, H.M. Ships and Vessels, Portsmouth:

Sir,

With reference to your submission of 1 November last, No. 323Y/939/E/61, forwarding a report of the Court of Enquiry held to investigate the circumstances attending the loss of H.M.S. "Velox", I am commanded by My Lord Commissioners of the Admiralty to request that an expression of their appreciation may be conveyed to Lieutenant F. Pattinson R.N.R, A. Langridge Coxwain, F. English Signalman, F. Wilkinson Able Seaman and Quartermaster, D. Murphy A.B. and G. Gargar A.B. of H.M.S. "Velox" in view of their conduct upon this occasion.

I am, Sir,

Your obedient Servant,

(Ink stamp %) W. Graham Greene

Submittal dated 29 October 1915 to Rear Admiral J.B. Eustace, Royal Naval Barracks, Portsmouth:

Sir,

We have the honour to submit that we have carried out a strict and careful enquiry into the loss of H.M.S. "Velox" on 25 October 1915 and have come to the following conclusions:

1. The "Velox" struck a mine, and that the mine was set with about a 48 feet (14.63m) mooring. The mine apparently struck "Velox" first on bottom plating of foremost stoke hold and scraped along the bottom without damaging a horn, until, it met propellers, when it is presumed a horn was smashed and the mine exploded. The second explosion was probably caused by the depth charge, and as the time interval appears to have been at least 10 seconds, it is thought that the depth charge was blown over the side, and exploded on reaching its correct depth.

N.B. It is known that German mines dropped from submarines have the top horn removed, which accounts for the mine not exploding earlier.

2. No blame is attached to anybody for this occurrence, as the mine was certainly outside the war channel, which had been swept that morning.

3. No blame can be attached to the sweeping officers for a mine being found in this position, as it was outside the definitely swept channels.

4. The conduct of the officers and Ship's company appears to have been entirely satisfactory. Individuals are specially mentioned as per attached letter from the Commanding Officer, H.M.S. "Velox".

5. It is our opinion that after the explosion the bottom plating of after compartments was so damaged that the water leaked through the bottom of the stern tube into these compartments, so that shoring up bulkheads would not have made any difference on this occasion.

6. Rough sketches showing the amount of damage and height of water half an hour after the explosion, are attached.

7. It is considered that all possible means were taken to save the "Velox" after the explosion. The behaviour of the Commanding Officer of "Velox" throughout reflects great credit on him, and everything was done by the Commanding Officer of "Conflict" in a seamanlike manner.

We have the honour to be, Sir,

Your obedient Servants,

(Signed %) Commander H.M.S. "Amphitrite".

(Signed %) Commander H.M.S. "Vernon".

(Signed %) Lieutenant Commander R.N. Barracks.

(Signed %) Lieutenant R.N. Barracks

Confidential Note dated 30 October 1915 to The Commander-in-Chief, Portsmouth: (Record begins with heading II):

II

Submitted in accordance with your signal 1224 of 26 October.

2. I consider that – had a shorter tow with less cable been tried – "Conflict" could have towed "Velox" into a better position for salvage work. This points to the necessity for all T.B.'s and T.B.D's to be frequently practised in towing and being taken in tow.

3. "Velox's" deck log and one copy of Vocabulary Book – which were saved – are forwarded herewith.

Rear Admiral,

(signed Eustace)

R.N. Barracks, Portsmouth

III

No: 3237/939/E/61.

Admiralty.

Submitted for consideration.

2. Copy No 742 of Vocabulary Signal Book 1915 saved from "Velox" has been taken on charge by me.

1 November 1915. (signed %) Admiral of the Fleet.

Minutes of Court of Enquiry held at Royal Naval Barracks, Portsmouth 28 October 1915 to enquire into the loss of H.M.S. "Velox".

Court Assembled at R.N. Barracks 28 October 1915.

Lieutenant F. Pattinson, R.N.R. (Captain of H.M.S. "Velox") was called and cautioned in accordance with Clause 9, Article 703, King's regulations.

1. Were you on board the "Velox" on Monday 25 October?

Yes.

2. What duties were the "Velox" doing on that day?

We went on patrol at 7 o' clock in the morning between Dunose and Culver, in company with the "Conflict". There was a heavy easterly gale blowing at the time, with high sea running. We were on patrol there all the forenoon. At about noon the Artificer Engineer reported to me that the condensers had lost suction three times, and that we might have to stop if this continued. I immediately closed on "Conflict" and suggested that it would be advisable for me to go further north into smoother water.

3. Would that be taking you unto the war channel?

It would take us into the neighbourhood of the war channel. The signal which I sent to the "Conflict" suggested that we should go up near Dean Tail buoy and patrol there. I was on the bridge all the forenoon and I took the ship up into the neighbourhood of the Dean Tail buoy, and gave orders to the Gunner who was the Officer of the Watch (he relieved the 1st Lieutenant) that the ship was to go about 9 knots, which was the speed at which we had been going all the morning. On turning we were going 11 knots because she rolled very badly when turning, and I went high speed with the object of getting round quicker. After getting up there and seeing everything was settled, I went down to lunch, and after lunch I was up there again with Mr Wilmore for some time. Then I went down to my room and she was running very much easier, and I was overhauling some confidential orders and correcting signal books until about 3.40. I went out of my room down into the wardroom with the object of having tea. I do not know what occurred to me but I went up on the bridge before having tea. I had been on the bridge about 5 minutes with Mr Wilmore, and we were steering in a north westerly direction from Bullock Patch buoy. We were about to pass between the first and second war channel buoys, probably about a cable to the east of the first channel buoy, when suddenly there was a violent explosion right aft, followed shortly afterwards by another explosion.

4. How far were you from the Nab End buoy?

About 4 cables to the eastward.

5. Does this bring you to the eastward of the war channel buoy?

We were 1 cable outside the war channel buoy.

6. This would apparently put you in about 8 to 9 fathoms. Was this so?

Yes, about 8 fathoms.

7. Were you steering a steady course?

Yes. We had altered the course shortly before to pass between the first and second war channel buoys, and we were steady at the time.

8. Can you give the position of the two war channel buoys that you were going to pass between?

The first war channel buoy was broad on the Port bow, and the second war channel buoy was very slightly on the Starboard bow.

9. What do you estimate the strength and direction of the tide at the time?

The tide was setting out at the time, south west 2.5 knots.

10. What happened after you struck the mine?

I observed that boards and various parts of the ship went up to a height of at least 150 feet (45.7m) in the air, aft. A soon as I saw this, I immediately gave the order to have the boats swung out ready, and had rockets fired off to attract attention. I then went down on deck to inspect the damage. I found that the part of the ship consisting of the Commander's cabin; pantry; half the wardroom below and above decks; the after gun; after torpedo tube and after mast had been completely blown off and disappeared. Halfway along the wardroom the deck at the end had bent right up and

was jagged right across. One could lean over the end and look down into the part of the wardroom that was left. It was absolutely full of wreckage, which was mostly under water. I found the first Lieutenant lying on the deck. He had somehow managed to crawl up on the deck from the wreckage of the wardroom, with both legs broken. I then found that to wardroom servants, two men at the after gun and Mr Dunn, the Chief Artificer Engineer were missing. I at once started a thorough search among the wreckage in the wardroom. This was a matter of great difficulty as the greater part of the wardroom was under water, and after a considerable time Mr Dunn was found wedged between his bunk and the ceiling. We got him up on deck, and in the meanwhile, as nobody seemed to have come anywhere near to assist us, I fired three charges from the 18-pounder gun. About half an hour after the explosion the first drifter came alongside. I was more concerned about the wounded than anyone else at the time, so I sent the drifter off to St. Helens to bring a doctor. Shortly after she had gone another drifter came alongside, who evidently thought we were in a bad way, because she came up alongside and smashed the Port berthon boat. Judging then that the best thing was to get as many men away I possibly could, as the ship was liable to go down at any time, I ordered the Chief E.R.A. who was then in charge of the Engine Room Department, to get all his men away in the drifter.

11. What was the height of water throughout the ship then, and state of the bulkheads?

At this time, 4.15, the after bulkhead between the engine room and stoke-hold was apparently holding. Engine Room and Petty Officer's messes were half full of water, and making water rapidly. Witness was here asked to draw a rough sketch, which is attached, showing height of water.

12. What happened after this?

I had the wounded men put on board the drifter and I ordered the Able Seamen to stop on board. Altogether, the Gunner Mr Wilmore, and 10 ratings stayed on board with me to take the tow line on board and try to get the ship into port. I did not keep more as I considered that it was quite likely that the ship might sink at any minute, and we might have had some difficulty in getting them all away.

13. How many boats had you left at this time?

The whaler had been stove in by the drifter coming alongside, and we had lost both Carley floats, so the only two boats left were the Starboard berthon boat and the dinghy.

14. Will you continue your narrative?

The "Conflict" came up just then and we took a heaving line from her, wire, and attached our own cable, slacking about 45 fathoms of cable. She finally got us under tow at about 4.45, proceeding very slowly. During the time between the explosion and the time we were finally got under tow, she had drifted down to the vicinity of the East Princessa Buoy. The "Conflict" succeeded in towing us close to the Nab Rock buoy. I found that "Velox" was sinking very fast in the water and signalled to let the "Conflict" know that I did not think she would keep afloat for two hours at the very most. The "Seahorse" came up and asked if she could do anything, but I told her to stand by in case we sunk. About a quarter of an hour after I sent the signal to the "Conflict", the after part of "Velox" settled under the water and the bow went up in the air, and she seemed about to turn over to starboard. It looked as if she was sinking at once, so I considered it was time to get the remainder of the crew out of it. At this time, I was fully convinced that the after part of the ship was on the bottom, and if it had not been on the bottom she would have gone down stern first and disappeared immediately. After some difficulty I got the berton boat launched (it was the only boat left then) and we got the remainder of the crew into it and shoved off. The "Velox" seemed to sink within a few minutes of my arrival on the "Conflict".

15. What orders had you received as to keeping out of the dangerous area on account of mines?

We had been warned to keep at least two miles off the Nab ourselves and warn all incoming boats to pass at least 1 mile to the westward of the Nab.

16. Do you suppose it was a mine or submarine that caused the explosion?

I think it was a mine.

17. What reason have you for supposing it was a mine?

There was a very rough sea and we had plenty of men on the lookout, and I think it would have been rather difficult for a submarine to manoeuvre and get into position for firing a torpedo without being seen. Also, I have several witnesses who heard bumping underneath the stoke-hold, and right along the ship's bottom, just before the explosion.

18. Was there much movement on the ship at the time of the explosion?

She was pitching a good deal.

19. What were you drawing at the time?

6.7 forward and 9.3 aft, as near as I could calculate. The propellers extend a little below the keel.

20. What was your speed at the time of the explosion?

From 8 to 9 knots.

21. Have you any orders as to speed on patrol?

The ordinary patrolling speed is 10 knots.

22. How many times had you been close to this spot during that day?

Close in that vicinity for about 4 hours, and I must have been close to the spot before.

23. What was the general behaviour of the ship's company after the explosion?

Quite satisfactory, and I would like to present a list of men whom I specially recommend.

(Withdrawal).

Lieutenant Pattison (recalled).

24. Was anything done in the way of shoring up bulkheads after the explosion?

No, because it was impracticable, and I consider that the water was coming in through the bottom, so shoring up would have been of no value.

(Withdrawal).

Lieutenant Pattison (recalled).

25. Do you think there were two explosions?

I was absolutely certain of it.

26. What interval was there between the two?

I should say about 10 seconds.

27. What is your idea as to the cause of the second explosion?

I should think it was the depth charge.

28. What happened to the after gun and torpedo tube?

The after gun and torpedo tube were blown over the side.

29. Do you know whether the safety pin was in the pistol of the torpedo?

Yes.

30. Where were the men who are missing, at the time of the explosion?

Two men at the after gun and two servants in the pantry getting tea ready.

(Withdrawal).

Lieutenant Watt R.N.R (In charge of Sweeping Trawlers) was called and cautioned in accordance with Clause 9, Article 703, King's Regulations.

31. Were you in charge of the Sweeping Trawlers outside Nab on Monday 25 October?

Yes.

32. Did you carry out the routine sweep during that day, and if so, describe roughly the area swept?

No 2 sweep was first carried out, which consists of sweeping war channel, passing between Nab End buoy and No 1 war channel buoy, and then on a south westerly course towards Dunose, returning the Princessa Shoal where sweep was slipped. Afterwards, No. 1 sweep was carried out, which starts a little to the north end of Nab close to west of Nab, then towards Owers light vessel and back to Bullock Patch buoy where sweep was slipped.

33. Did you pass close to the Nab End and No 1 War Channel buoy?

I was not in the trawler myself which performed that sweep.

(Withdrawal).

Gunner H Wilmore was called and cautioned in accordance with Clause 9, Article 703, King's Regulations.

34. Were you Officer of the Watch on board the "Velox" on the 25 October?

Yes.

35. What watch had you?

The afternoon watch.

36. What orders had you received when you took over the watch?

I took over the watch from the first Lieutenant, and he told me that the ship had been sent from the outer patrol owing to the heavy sea and she had come to get in calmer water. Her position then was roughly southwest of the three Target buoys.

37. What time was that?

About 12.30.

38. What course and speed was turned over to you?

The speed was turned over as 8 knots. The speed for turning was turned over at 11 knots.

39. Were you warned to avoid any particular area?

No, except orders that we had had previously to warn all ships to keep clear at least 1 mile from the west of the Nab.

40. What patrol were you carrying out that afternoon?

On the patrol between Bullock Patch buoy and between the first and second war channel buoys towards the Warner then turned and went back to Bullock Patch, altering the course as necessary to clear the Target buoys.

41. How many times do you think you went up and down this line?

I should think I was going down for the fifth time.

42. Did you pass about the same distance from No. 1 war channel buoy on each occasion?

As near as possible. There was a strong easterly wind blowing and I gave the buoy plenty of clearance on my port hand.

43. What time did the explosion occur?

About 3.50 p.m.

44. What do you suppose to be the cause of it?

A mine.

45. What are your reasons for supposing it was a mine?

The explosion must have occurred on the starboard side of the ship, and I do not think it was deep enough water for a submarine to operate submerged on my starboard side.

46. What makes you believe it was the starboard side?

The remaining part of the upper deck aft was twisted away to port.

47. Describe in a few words what occurred after the explosion.

Rockets and guns were fired to attract attention, sirens were blown; boats were prepared, the steam had blown down from the boiler. Two Officers were got from below, and search was made for the 4 hands that were missing. Afterwards we were taken in tow by the "Conflict".

48. How far do you think the water got forward during the first hour after the explosion?

During the first quarter of an hour the water was in the Engine Room and gradually rose at a speed of two to three feet (0.6 to 0.91m) during the first hour, after which it rose very quickly.

49. Do you think the water was coming in through the bulkhead or through the bottom?

I cannot say, because I did not see it personally.

(Withdrawal).

Gunner H. Wilmore (Recalled).

50. Where are the after magazines?

Under the E.R.A.s mess.

51. What was under the galley?

Fresh water tanks, I think.

52. What did the magazine contain?

Small arm and 6 pounder ammunition.

53. What was there in the war head magazine?

One collision head only.

54. Where was your depth charge at the time?

On the port quarter abreast the Captain's hatchway.

55. Was it primed?

Yes, and nuts removed.

56. Did you notice more than one explosion?

Personally, no.

(Withdrawal).

Chief E.R.A. W. Small was called and cautioned in accordance with Clause 9, Article 703, King's Regulations.

57. You were on board the "Velox" when this explosion occurred?

Yes.

58. Where were you at the time of the explosion?

In my mess.

59. Would the noise of the engine prevent you from hearing anything touching the bottom?

Yes.

60. What did you do when you heard this explosion?

I went down into the Engine Room, and the men there went on the upper deck to see what was the matter. I started the ejectors and told the men to start the bilge pump, which was done. Then I gave orders for the fires to be drawn in all but the forward boiler, which I kept for auxiliary purposes.

61. Were the engines still going round when you reached the Engine Room?

No. The E.R.A. on watch had stopped them.

62. How much water was in the Engine Room when you got down there?

About 2 feet. (0.61m)

63. Was this water coming in through the after bulkhead?

I cannot say. It was coming in.

64. Does this sketch represent the amount of the stern blown away, as far as you can tell?

Yes, approximately correct.

(Withdrawal).

Chief Stoker A. Harrison was called and cautioned in accordance with Clause 9, Article 703, King's Regulations.

65. You were on board the "Velox" on the 25 October?

Yes.

66. Did you hear anything before the explosion?

Yes. I was on watch in the after stoke hold and something seemed to bump just under where I was standing, and then it seemed to drag along the bottom. About 5 or 6 seconds after, the explosion occurred.

67. What did you do then?

I went to see if everything was all right and got my orders as regards the boilers. I had orders to draw the thickest of the fires out. I then put the drenchers on and left the stop valves open. I then saw the sea connection was closed. I saw that no water was gaining in the bilge and then reported to the Chief E.R.A.

68. Who did you get your orders from?

The Chief E.R.A.

69. Where did the Chief E.R.A give you your orders?

On the upper deck.

70. What did the remainder of the men in the stoke hold do when the explosion took place?

They went on the upper deck to see what was happening. I ordered the first one I saw down again, and he drew the fires with me.

71. How long was the steam kept after the explosion?

Steam was kept until after we left the ship, and I saw the Engine Room ejector working after I left the ship.

(Withdrawal).

Leading Stoker T. Rose was called and cautioned in accordance with Clause 9, Article 703, King's Regulations.

72. You were on board the "Velox" on 25 October?

Yes.

73. Did you hear anything before the explosion?

I heard a scraping noise along the bottom and then a few seconds afterwards I heard the explosion.

74. What did you do when you heard the explosion?

I put my head up the hatch to see what had happened. Stood by in the stoke hold until I received orders.

(Withdrawal).

Coxswain A. Langridge was called and cautioned in accordance with Clause 9, Article 703, King's Regulations.

75. Where were you at the time of the explosion?

I was in the Petty Officer's mess.

76. Did you think there was one explosion or two?

Two.

77. How long between the two explosions?

About 15 seconds.

78. What did you do after the explosion?

I came up to the upper deck and went to see the extent of the damage. Then I assisted the first Lieutenant clear of the wreckage, I then searched for the Engineer but could not find him aft, and went round the ship to see if he was anywhere to be found, and eventually found him buried in the wreckage in the wardroom.

79. How long did it take you to get him out?

It took about a quarter of an hour to break away wreckage to get him out.

80. Who assisted you?

I was assisted throughout by Able Seaman Gander.

81. From the effects of the explosion do you think that it was caused by a mine or torpedo?

I am sure it was a mine on account of the direction in which the steel was bent. The explosion came from right underneath the stern.

(Withdrawal)

Chief T.G.M. C. Cotter was called and cautioned in accordance with Clause 9, article 703, King's Regulations.

82. You were Chief T.G.M. on board "Velox"?

Yes.

83. Was the depth charge fitted and ready for dropping?

Yes.

84. Was the safety pin in or out of the pistol?

It was in.

85. Were there one or two explosions?

Two, at about 10/15 seconds interval. The second one was not nearly so strong as the first.

86. What do you think caused the second one?

The depth charge.

87. How were you employed after the explosion?

I superintended getting out boats.

88. By whose orders?

I acted on my own initiative, as I thought the Officers were very likely all damaged aft.

89. What did you do after boats were got out?

I was getting the ship ready for towing.

(Withdrawal).

Signalman F. English was called and cautioned in accordance with Clause 9, article 703, King's Regulations.

90. You were on board the "Velox" on 25 October.

Yes.

91. Did you see any submarine during the day?

No.

92. Did you see any signs of torpedo or mine before the explosion?

No.

93. Was there one explosion, or two?

Two.

94. At what interval?

Nearly half a minute, I think.

(Withdrawal).

1st Class Stoker A. Morbey was called and cautioned in accordance with Clause 9, Article 703, King's Regulations.

95. Where were you at the time of the explosion?

In the after stoke hold.

96. Did you hear anything before the explosion?

I heard a scraping sound under the bottom, several seconds before the explosion.

(Withdrawal).

1st Class Stoker A. Smith was called and cautioned in accordance with Clause 9, Article 703, King's Regulations.

97. Where were you at the time of the explosion?

In the after stoke hold.

98. Did you hear anything before the explosion?

A rumbling noise under the bottom of ship.

99. How long before the explosion took place.

A few seconds.

(Withdrawal).

2nd Class Stoker R.A. Patrick was called and cautioned in accordance with Clause 9, Article 703, King's Regulations.

100. Where were you at the time of the explosion?

In the after stoke hold.

101. Did you hear any noise at all before the explosion?

I heard a thumping noise under the bottom, as if something was rattling against the keel.

102. How long after that did the explosion take place?

About 3 seconds after I heard one explosion, and then shortly after, another explosion.

(Withdrawal).

Lieutenant Clarke Hall, Commanding Officer H.M.S. "Conflict" was called and cautioned in accordance with Clause 9, Article 703, King's Regulations.

103. What first called your attention to anything having occurred?

I saw gun-firing.

104. Where were you at the time?

Off St. Helens.

105. When did you first know the "Velox" required assistance?

A drifter first informed me.

106. What time was that?

About 4.20.

107. Will you describe shortly what occurred after this?

I proceeded to "Velox" who told me she had struck something, and her stern was blown off. I immediately proceeded to take her in tow. The heavy lop and wind meanwhile drove her down off East Princessa buoy before I went ahead. I worked up to 8 knots and about 6.20 she signalled me that she could not last more than two hours longer. I determined to beach her in St. Helen's Bay, but her stern settled down and grounded off the Nab Rock buoy. Shortly afterwards "Velox" signalled me that she was sinking, and I sent the lifeboat, which was not required, as they came over in their own berthon boat. Then she settled on an even keel in 10 minutes.

108. Did you experience much difficulty in taking her in tow?

A little owing to the lop and wind, and her helplessness.

109. Did you tow with long or short tow?

About three shackles of cable.

110. Did any other craft render any assistance during these proceedings?

The drifter took off the majority of the crew earlier in the proceedings, and the "Seahorse" was standing by for the last hour.

(Withdrawal).

Lieutenant A. B. Nesling, Commanding office H.M.S. "Seahorse" called and cautioned in accordance with Clause 9, Article 703, King's Regulations.

111. What first called your attention to the fact that anything was wrong?

I was lying in St. Helen's roads and received orders to proceed with a doctor to treat the injured from "Velox" at 4.45. At 5 o'clock I was under way with the doctor on board. It took about half an hour to reach the "Velox".

112. What happened after you reached her?

I observed that "Conflict" had "Velox" in tow; asked for instructions and was ordered to stand by as "Velox" was making water fast. I remained astern of "Velox" for about an hour. Later, when asked, I went alongside but found that the remainder of the crew had already left the ship in their own berthon boat. I then received orders to return to St. Helens.

(Withdrawal).

(Signed %) Commander H.M.S. "Amphitrite".

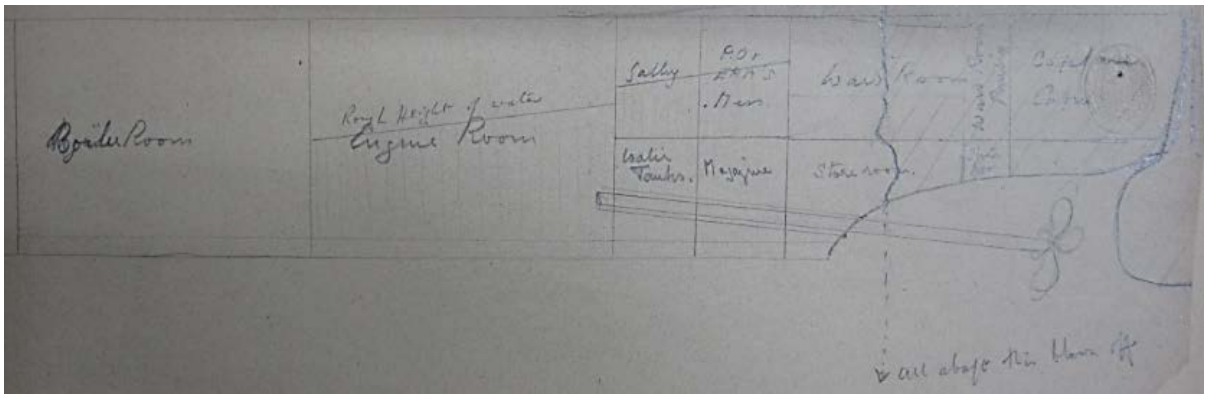
(Signed %) Commander H.M.S. Vernon.

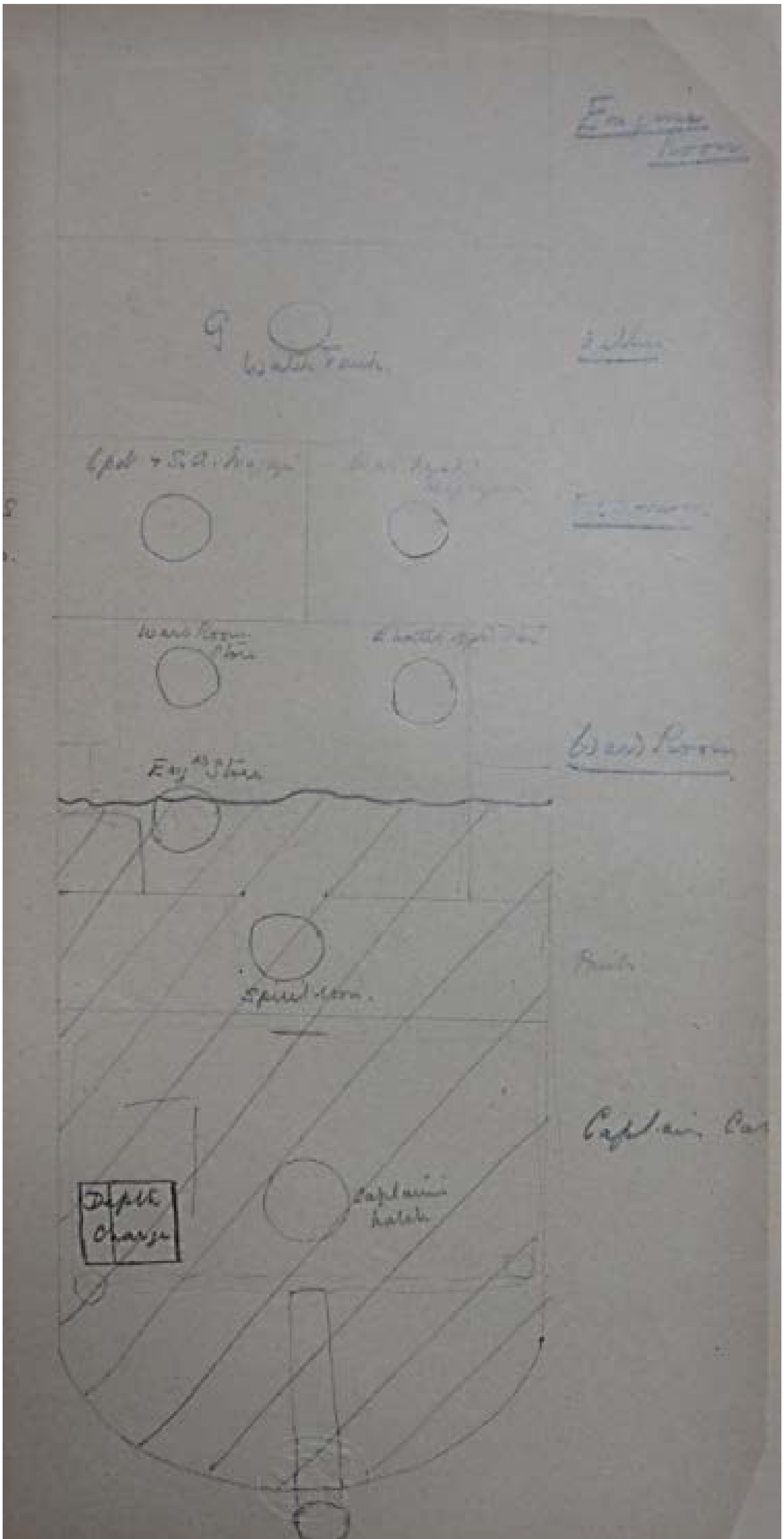
(Signed) R Leach Lieutenant Commander R.N. Barracks.

(Signed %) Lieutenant R.N. Barracks.

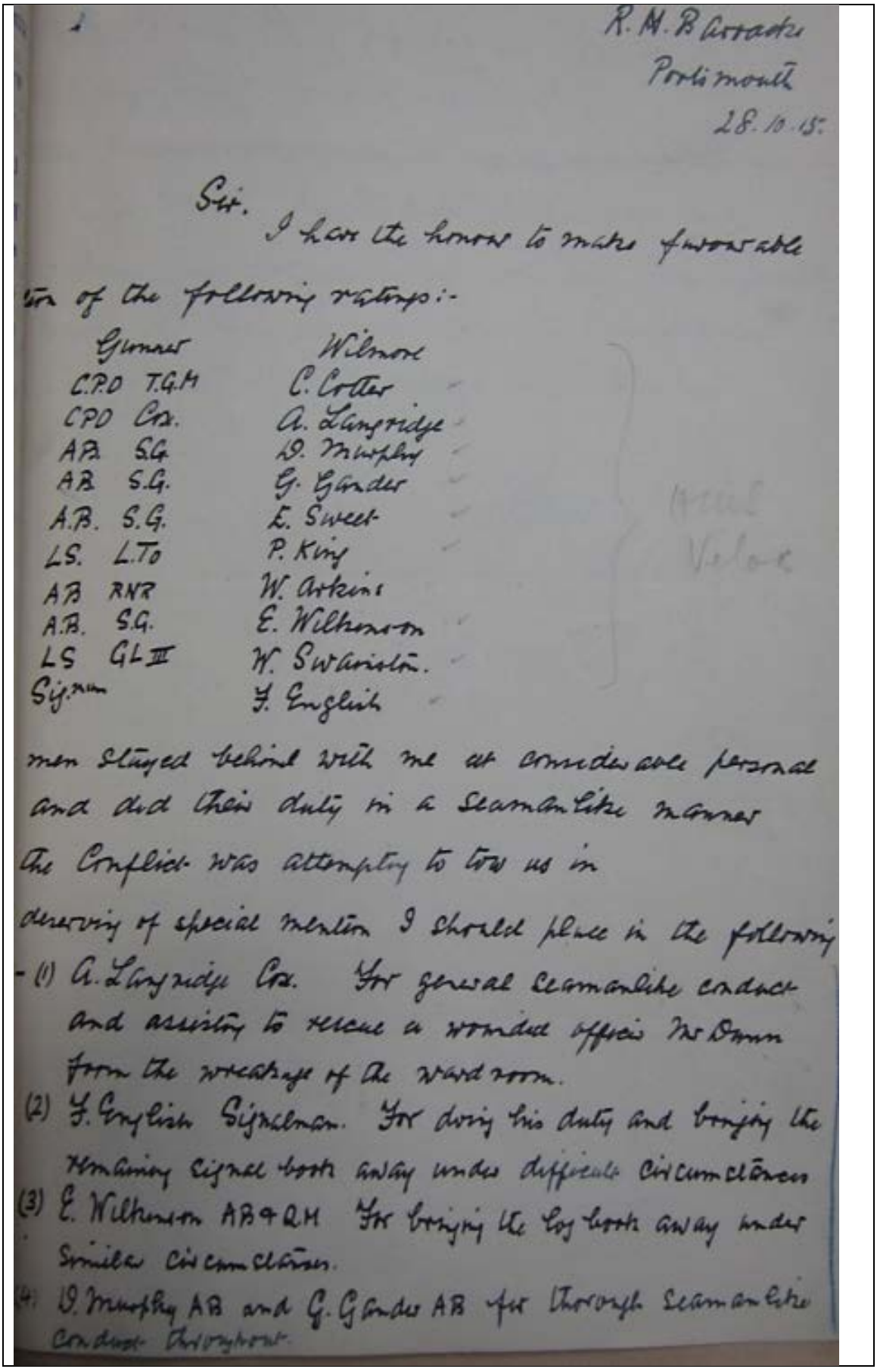
Sketches referred to in the Court of Enquiry:

Amount of damage and height of water half an hour after the explosion.




Engine Room
Ward Room
Depth Charge
Captain hatch

Letter attached to the file:



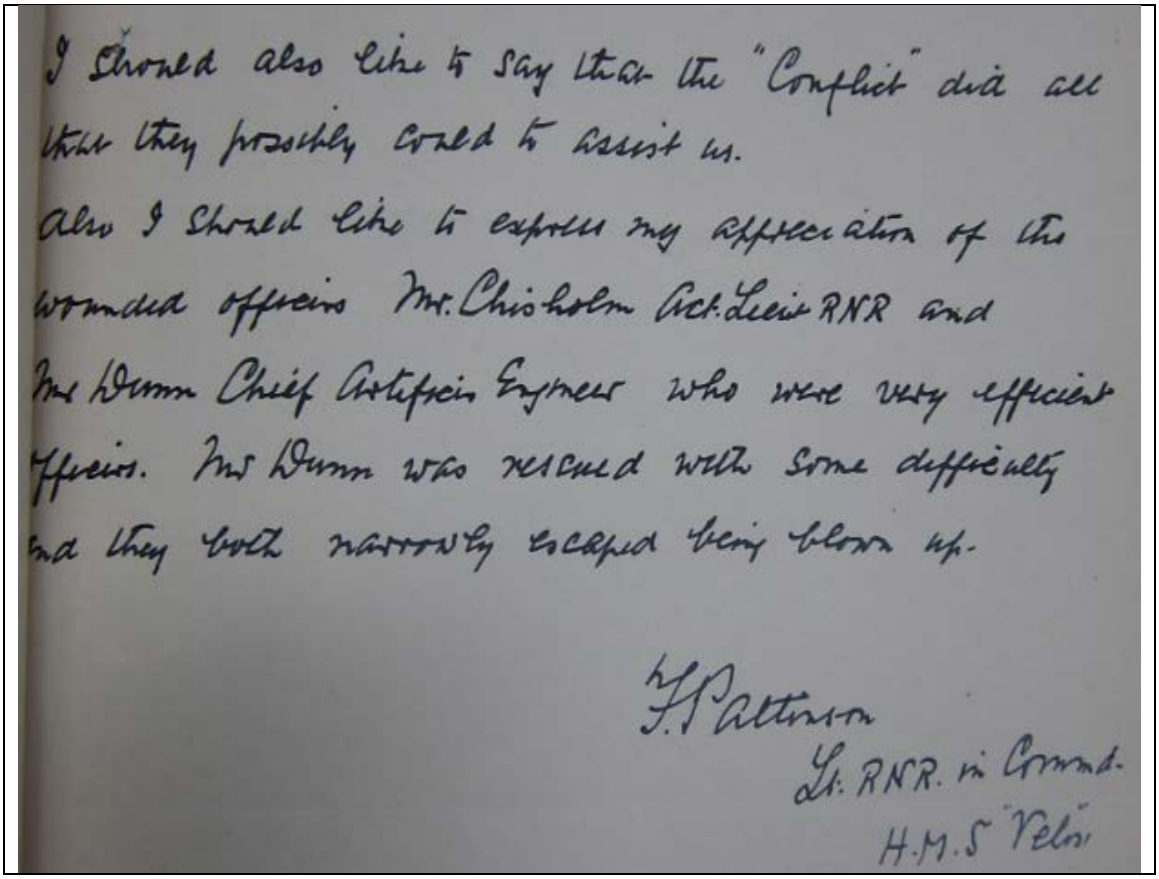
R.N.B. Barracks
Portsmouth
28.10.15.

Sir.

I have the honour to make favourable
tion of the following ratings:-

Gunner	Wilmore
C.P.O T.G.M	C. Cotter
CPO Cox.	A. Langridge
AB S.G	D. Murphy
AB S.G.	G. Gander
A.B. S.G.	E. Sweet
LS. L.To	P. King
AB RNR	W. Atkins
A.B. S.G.	E. Wilkinson
LS GL III	W. Swanston.
Sig.man	F. English

men stayed behind with me at considerable personal
and did their duty in a Seamanlike manner
the Conflict was attempting to tow us in
deserving of special mention I should place in the following
- (1) A. Langridge Cox. For general seamanlike conduct
and assisting to rescue a wounded officer Mr Dunn
from the wreckage of the ward room.
(2) F. English Signalman. For doing his duty and bringing the
remaining signal book away under difficult circumstances
(3) E. Wilkinson AB & QM For bringing the Log book away under
similar circumstances.
(4) D. Murphy AB and G. Gander AB for thorough Seamanlike
conduct throughout.



I should also like to say that the "Conflict" did all that they possibly could to assist us.
Also I should like to express my appreciation of the wounded officers Mr. Chisholm Act. Lieut RNR and Mr Dunn Chief Artificer Engineer who were very efficient officers. Mr Dunn was rescued with some difficulty and they both narrowly escaped being blown up.

F. Patterson
Lt. RNR. in Comd.
H.M.S "Velox"

8.2 Artefacts at Shipwreck Centre and Maritime Museum

The artefacts below were all recorded by project volunteers. They are all owned by Mr Martin Woodward, many of them are on display at the Shipwreck Centre and Maritime Museum, Arreton Barns, Isle of Wight. http://museum.maritimearchaeologytrust.org

ID	Artefact Type	Material	Length (mm)	Width (mm)	Height (mm)	Description	Artefact Class
345	Lamp	Brass		130	160	Lamp Base - Brass, top wires badly twisted. Cupped base with central hole circular	Fixtures and Fittings
509	Porthole	Brass		33		Circular base with glass in middle Slight discolouration	Fixtures and Fittings
511	Porthole	Brass		65		Large brass porthole, Heavy lid that still opens - no glass Thickness 65mm	Fixtures and Fittings
512	Porthole	Brass		65		Brass porthole - slightly damaged by fitting on right hand sided. Lid is locked in place by screw. Thickness 65mm	Fixtures and Fittings
534	Knob	Brass	93			Broken from original base Text ' TO OPEN PULL. TO SHUT PUSH'	Fixtures and Fittings

ID	Artefact Type	Material	Length (mm)	Width (mm)	Height (mm)	Description	Artefact Class
535		Brass	112			Disfigured fitting / screw base	Fixtures and Fittings
537		Brass	245	110	84	Valves / fitting Moves - but missing inner part. Possibly some form of machine component. Text: 'top' '57' Fitted on wooden base	Fixtures and Fittings
542	Bell	Brass			280	Bell - badly degraded Text - HMS Velox 190?	Fixtures and Fittings
543		Brass	370	90		Fitting Slightly disfigured. Has arrow point integrated in the fitting. Shaped like a bicycle handle bars.	Fixtures and Fittings
547	Lamp	Brass	200	110		Oil lamp fitting Bottom parts of wall fitting present	Fixtures and Fittings
570		Brass			122	Screw fittings on each end - firehose part? Text OR. 21406 4'Pii??? 'A209' 'SPARE PARTS'	Fixtures and Fittings
571	Porthole	Brass				12 holes for screws - circular	Fixtures and Fittings
572		Metal	187	22		Disfigured nail	Fixtures and Fittings
573	Hinge	Brass	150	33		Still movable parts 6 screw holes	Fixtures and Fittings
1,159	Candle stick					Brass candleholder	Fixtures and Fittings
1,160	Undefined	Bronze		240	90	Bronze heavy cylindrical deck equipment. Cylinder has 'TOP' embossed along its side.	Fixtures and Fittings
1,161	Valve	Bronze		300	115	Heavy Bronze Valve; 40mm pipe extends 110mm from valve and then has shattered end. Opposing end is a screw cap with a finger grip knob, 70mm from valve proper.	Fixtures and Fittings
1,162	Porthole					Bronze porthole lid and glass	Fixtures and Fittings
1,164	Undefined	Copper			70	Copper or brass, like a watering can rose.; perforated top & sides. Top of a lap - a cover to let out the heat out, and so drafts don't blow it out. Suggest oil lamp ventilator or remains of 2x opposing fixing straps.	Fixtures and Fittings
1,165	Clamp	Bronze		148	147	Large, bronze shackle-type clamp	Fixtures and Fittings
1,166	Bracket	Brass	130	50		Railing support bracket with fixing nut and washer. Probably for a wooden rail.	Fixtures and Fittings

ID	Artefact Type	Material	Length (mm)	Width (mm)	Height (mm)	Description	Artefact Class
1,167	Lamp	Unrecorded		105	180	Probably a lamp cover. Lattice-type frame.	Fixtures and Fittings
1,168	Valve	Brass	170	58	140	Valve/Cock - complete except for 'handle'. Possibly from a water hydrant, the handle is moveable between valves. Currently in the 'shut' position as the line is across the direction of flow. Marked A?W on hexagonal surface.	Fixtures and Fittings
1,173	Undefined	Metal			60	A thick hollow circle - possible drive coupling.	Fixtures and Fittings
310	Lamp	Brass		200	410	Paraffin lamp Brass surround 3 Glass panels Inside tank for paraffin - small hole at base of front panel, set in brass Working lid at the top, carrying handle at the top	Furnishing
538		Lead	136	19		Nutcracker? Stamp with various symbols Has movable parts	Galley
539		Lead	136	19		No visible markings	Galley
558		Metal	175	27		Sea life growth covers the entire fork. 2/4 fork prongs complete	Galley
559		Metal	167	22		Fork with stamps on the back 3/4 prongs remaining	Galley
560		Metal	171	23		Damaged but intact with no stamps visible	Galley
569		Metal	200	154		Teapot - Handle missing - lid present Mainly black glaze - white on upper rim. Dotted decoration between black and white glaze.	Galley
574	Handle	Metal	89	16		Handle is ornate Bottom part is missing - unclear if fork / spoon / knife	Galley
1,163	Brick	Brick		165	60	Fire Brick. Small pummiestone brick with maker?s details. Engraved :- ' -HE SOMERSET TRADING CO. LD LATE BROWNE & C BRIDGEWATER'.	Galley
536	Lamp	Brass		243		Plaque 1 'W M Harrik & Co. Patented 1889. 4 48. 222 Broomielaw. Glasgow. Bottom 'C. 1 3084' 'W M Harrick 1895' '1891' 'aft'	Navigation
545	Coin	Lead				Coin with Arabic text	Numismatic
495	Shell (Ordnance)	Brass	151	63		Shell casing Markings on the base	Ordnance

ID	Artefact Type	Material	Length (mm)	Width (mm)	Height (mm)	Description	Artefact Class
496	Shell (Ordnance)	Brass	151	63		Shell casing. Marking on base.	Ordnance
497	Shell (Ordnance)	Brass	150	63		Shell casings Markings on base	Ordnance
498	Shell (Ordnance)	Brass	145	41		Shell casing (small). Markings on base.	Ordnance
499	Shell (Ordnance)	Brass	151	48		Small shell casing Markings on base	Ordnance
502	Bottle	Glass	265	72		Glass beer bottle - dark coloured glass - contents fizzy Markings = Whitbread & Co Ltd Trade mark - London + markings on cork	Ordnance
532	Shell (Ordnance)	Brass	132	47		Shell casing with markings on base - hole in base.	Ordnance
1,169	Brick	Ceramic	150	75	50	BRICK - weathered but complete. Inscribed with 'TRADING CO Ltd' plus other undecipherable letters	Other
500	Bottle	Glass	265	70		Glass beer bottle - dark coloured glass - contents fizzy Markings = Whitbread & Co. Ltd Trade Mark London Markings on cork	Personal
501	Bottle	Glass	271	70		Glass beer bottle - dark coloured glass - contents fizzy Markings = Whitbread & Co Ltd Trade mark - London + markings on cork	Personal
503	Bottle	Glass	272	72		Glass beer bottle - dark coloured glass - contents fizzy Markings = Whitbread & Co Ltd Trade mark - London + markings on cork	Personal
504	Bottle	Glass	265	75		Glass beer bottle - dark coloured glass - contents fizzy Markings = Whitbread & Co Ltd Trade mark - London + markings on cork	Personal
505	Bottle	Glass	268	75		Glass beer bottle - dark coloured glass - contents fizzy Markings = Whitbread & Co Ltd Trade mark - London + markings on cork	Personal
506	Bottle	Glass	265	73		Glass beer bottle - dark coloured glass Markings = Whitbread & Co Ltd Trade mark - London + markings on cork	Personal
507	Bottle	Glass	263	72		Glass beer bottle - dark coloured glass. Markings = Whitbread & Co Ltd Trade mark - London + markings on cork	Personal

ID	Artefact Type	Material	Length (mm)	Width (mm)	Height (mm)	Description	Artefact Class
508	Bottle	Glass	240	60		Small clear bottle Markings 'Mumby makers to HM The King' Cork 'Mumby Portsmouth'	Personal
540	Watch	Lead				Pocket watch in 4 pieces - no matching parts - degraded. HMS Velox wardroom Markings - 421859 Crest on back piece - very faint markings	Personal
541	Buckle	Brass	40	55		Ordinary buckle. Unknown whether this would be shoe or belt.	Personal
550	knife	Metal	215	22		Slightly bent end Stamp 1 'Elkington' Stamp 2 'Z' Stamp 3 'Co' Ornate handle	Personal
554	Spoon	Metal	181	38		Discoloured Crest on front - indistinguishable Stamps on back - indistinguishable	Personal
556	Spoon	Metal	220	48		Stamps on back 'A1'	Personal
557	flake	Metal	180	27		Barnacles and other sea life growth present. 1/4 prongs complete	Personal
513	Telegraph	Brass		130		Telegraph with working movable parts. Text still visible. Glass intact. Thickness 130mm	Ship Equipment
544	Lamp	Brass		130	335	Oil Lamp All parts are seemingly present. Glass still intact. Square shape	Ship Equipment
1,174	Undefined	Metal		82	50	A hollow square with circles around the rim. Part of oxygen generator/air regulator.	Ship Equipment
1,175	Undefined	Brass		75	25	A hollow circle on top of a rectangle with a sliding plate. Probably air regulator	Ship Equipment
321	Hatch	Brass		580	70	Bronze hatch from HMS Velox, 1916. All brass, oval shape, 2 square hand holder central hole. Cross-hatched centre. Smooth outer ring. "2" just outside cross-hatching	Ship Structure
1,254	Engine part	Brass	208	20	4	Set of 3 blades from the turbines of HMS Velox. Brass. Marks at each end related to fixings.	Ship Structure
514	Plaque	Brass	186	28		'Ward Room Stores'	Unidentified
546	Pottery shred		22	12		Small pottery sherd with blue print	Unidentified
1,170	Undefined	Metal		37	130	Hollow cylinder	Unidentified

ID	Artefact Type	Material	Length (mm)	Width (mm)	Height (mm)	Description	Artefact Class
1,171	Undefined	Metal		52	80	Torch like object with a hollow bottom.	Unidentified
1,172	Undefined	Ceramic		11	67	A ceramic rectangle with holes. Possible fuse holder - would likely have had asbestos pad attached.	Unidentified
493	Lamp	Brass		130	210	Lamp holder	
510	Plaque	Brass	88	39		Plaque - hole for a screw on each side of the plaque. Slight discolouration. Text on object 'Evaporator blow down - 16'4' below gunwale'	
515	Plaque	Brass				Brass Plaque Markings: Ahead & Astern (with arrow symbols) Fixed on wooden board / piece	
516	Plaque	Brass	211	27		'Spanner sluice valve'	
517	Plaque	Brass	182	25		Text ' Engine Room Artifrs'	
518	Plaque	Brass	228	75		Text 'E. Norris'	
519	Plaque	Brass	230	74		Text (very faint) 'E Barker PO'	
520	Plaque	Brass	228	75		Plaque for sea chest Text ' J West'	
521	Plaque	Brass	140	33		Text: 'Covers to S.V. Deck plates'	
522	Plaque	Brass	168	20		Text - 'Torpedo tube spare parts'	
524	Plaque	Brass	135	27		Text 'Leak Stoppers'	
526	Plaque	Brass	120	18		Text 'Primers Torpedo'	
528	Plaque	Brass	230	75		Text ' A A Hayles' (may be 'A Hayles as looks like name has been restamped') Plaque for sea chest / kit bag label	
529	Plaque	Brass	130	84		Square plaque shape '70'	
530	Plaque	Brass				Circular shape Text 'Reserve tank rundown'	
531	Shell (Ordnance)	Brass	156	48		Markings on base. Slightly damaged (disfigured) and discoloured	
576		Brass	280	23		Walker Log Spinner Vane 4 Blades Text T W Excelsior T Walker & Son Ltd, Birmingham, England	
577		Brass	390	40		4 Blades Ornate Point Text TW Cherub	