



Wreck of the Edindoune (BF1118), Scapa Flow, Orkney.

Final Report

Submitted to: Historic Environment Scotland

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SUMMARY

A side scan survey carried out in January 2016 found an unidentified object on the seabed in the eastern area of Scapa Flow, Orkney. Initial investigations showed the wreckage of a vessel, including an engine, ballast pile and boiler. With funding support from Historic Environment Scotland, a detailed investigation of the site was carried out, which involved a detailed site investigation by diving. This showed that the wreck was the remains of a timber vessel, which had settled on the seabed and fallen on its port side. While the timber hull was largely rotted away, the propeller, shaft, engine (two-cylinder fuel driven), ballast pile, capstan winch, boiler, anchor chain, mast steps and associated debris were still evident on the site. The wreck appeared to be undisturbed not known to the local diving community. Archive research revealed that the remains were almost certainly those of the herring drifter Edindoune (BF1118), a Zulu-type drifter, lost in Scapa Flow in February 1920 while en route from St Mary's to Stromness. The wreck has some importance in the context of Orkney and Scotland's fishing heritage.

1. INTRODUCTION

In January 2016 during a sonar survey being conducted for the local harbour authority, SULA Diving detected what appeared to be wreckage on the seabed at a site in the eastern area of Scapa Flow, Orkney. Subsequent investigation of the site using a drop video system confirmed the presence of a discrete area of wreckage, approximately 22m long, lying on a level seabed in approximately 32m water depth. The wreckage appeared to be that of a wooden vessel (most of the wood rotted away), with engine, boiler, ballast pile, large capstan winch, propeller shaft and anchors present. There were no charted wrecks in the area and its presence had not been detected in recent hydrographic surveys of the wider Scapa Flow area. The site also appeared to be unknown to local divers, although diving (recreational or commercial) is uncommon in that area of Scapa Flow.

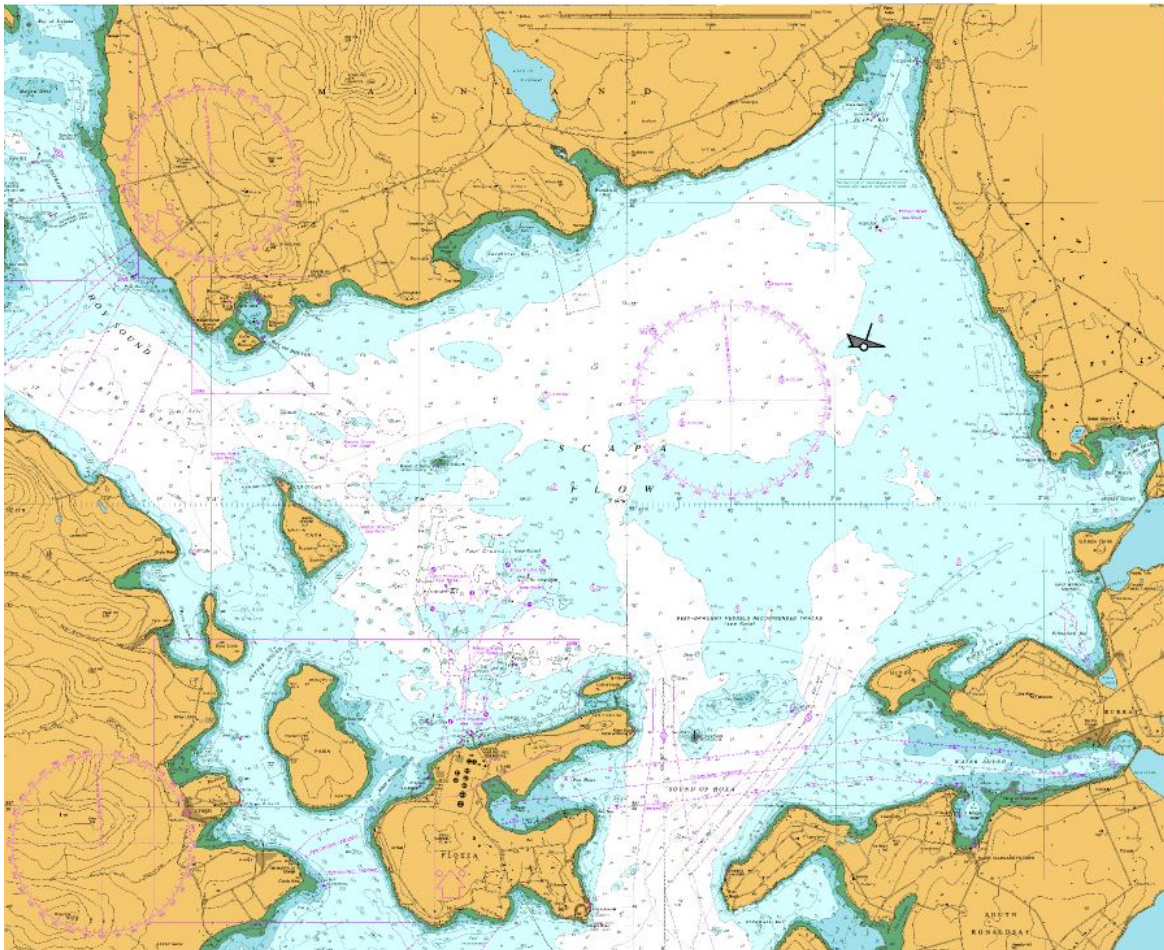


Figure 1: Scapa Flow, Orkney, showing the location of the unknown wreckage discovered during a side scan survey in January 2016. Extract from Chart 35, Scapa Flow and Approaches, UKHO.

It was initially thought that the wreck could be that of a herring drifter, other examples of which have recently been found in Scapa Flow (SULA Diving, 2016) with others still unaccounted for. Closer examination of the wreck site was required however and Historic Environment Scotland (HES) provided funding support to carry out a detailed investigation of the site by side scan sonar and diving. This report details the findings of the survey work conducted on the wreck and the archive research that was conducted to discover its identity.

2. METHODS

2.1. Side scan sonar

The side scan sonar survey was carried using a CMax CM2 side scan sonar system, comprising a digital towfish with depth sensor. Sonar data were collected using a medium and high frequency settings of 325 kHz and 780kHz, respectively, and recorded using MaxView software. An Evermore SA380 Marine GPS (accuracy $\pm 3\text{m}$) was used to collect spatial data. The towfish was towed behind the survey vessel at an altitude of 5-10m off the seabed. A counter pulley recorded the layback distance of the towfish, which was used during post processing to determine the location of the towfish (and thus any sonar contacts) relative to the vessel position. Post processing of sonar data was achieved using SonarWiz 7. All locations were given in degrees and deci-minute format (datum WGS84).

2.2. Diving

The dive survey was carried out under the Scientific & Archaeological Approved Code of Practice (ACoP) using SCUBA (self-contained underwater breathing apparatus). Operating from a suitable dive support vessel (DSV), the site was marked by a shotline and a two-person dive team descended to the wreck where they carried out a visual inspection. Digital still images and video were recorded and written notes were collected on a diver slate. Full details of the diving procedures and risk assessment are contained in SULA Diving document ref 18-357.

3. RESULTS

A side scan survey was carried out on the 1st February 2018. The diving survey was carried out on the 23rd February 2018. Results are described below.

3.1. Side scan sonar

The high frequency side scan sonar survey of the site conformed the position of the wreckage as 58° 54.497' N, 002° 59.391' W. However, the survey did not yield more detailed images than those collected on the 24th June 2016, which used medium frequency. Despite passing the site from several angles, each image was incomplete or blurred (Figure 2). There was no obvious reason for this as the equipment appeared to be fully functional. One possible explanation was that the site was being obscured by a large shoal of fish. This would explain why some images clearly showed parts of the wreckage, but other parts were “blurred out”. Sonar images showed a large sonar shadow but no hard return, which might result from biological material that was densely clumped. Shoals of fish are attracted to seabed features such as wrecks.

Consequently, the original survey images collected in January 2016 and again in June 2016, were used as an illustration of the site extent and to inform the dive survey. The sonar picture collected in June 2016 (Figure 3) shows a site of approximately 22m long, oriented on a southwest-northeast axis. The initial drop camera footage revealed a ballast pile that is most likely that middle portion of the sonar image with stern wreckage (including engine) to the southwest and additional wreckage, including a boiler, to the northeast. Water depth at the site was approximately 32m on a level seabed composed of a mixed mud/sand/gravel substrate.

The original sonar image of the site collected in January 2016 (Figure 4) shows what appears to be a drag mark on the seabed leading to (or from) the wreck site that has disturbed a large amount of sediment.

3.2. Diving

The diving survey was conducted during a period of good underwater visibility that allowed a detailed inspection of the site and the remains contained therein. The layout of the site was as expected from the earlier drop video survey and confirmed the orientation of the wreckage as being approximately southwest to northeast, with the stern to the southwest. The wreckage stood a maximum of 1.5m off the seabed.

The main features of the site are described below, working from stern to bow. Images recorded during the dive survey are also provided below.

- Propeller and shaft (Figures 5-7). The propeller was partially buried with one blade lying parallel to the seabed and the remaining stump of another angled slightly upwards, the angle between suggesting a third blade was present but completely buried. The shaft passed through a metal box, possibly a thrust block, before running forward to the engine. The shaft lay at an angle to the engine, suggesting it had moved from its original line. The flanges where the shaft was connected to the engine had separated.
- A mast tabernacle was located just to one side of the propeller shaft (Figure 5).
- Engine (Figures 8-13). The two-cylinder engine was mounted on a heavy steel frame and was lying on its port side, exposing the concrete ballast below. A gearbox with gear lever were located on the aft end of the engine from which the propeller shaft was become detached. A

large fly wheel was mounted on the front end of the engine. The concrete ballast contained voids where the timber ribs would have been located. Smaller wreckage was seen next to and under the engine, including a large metal box and associated copper pipework.

- A metal cylinder lying to the north side of the engine may be a ship's helm. No wheel was present however. Broken glass was found lying beside this item, possibly the remains of wheelhouse windows (Figure 14).
- Ballast pile (Figure 15). Located immediately forward of the engine was a ballast pile that measured approximately 5m long by 2m wide. It was composed entirely of beach type cobble stones of a relatively consistent size. The pile was entirely clear of wreckage, apart from a fisherman's type anchor located close to the engine on the north side.
- Heavy timber (Figures 16 & 17). A heavy timber ran forward from the ballast pile and was mostly buried with only its top surface evident. Copper nail heads were protruding from the top surface of the timber. Its size and orientation (running aft under ballast pile and in line with the concrete ballast under the engine) suggested that this was the keel timber. A smaller section of timber lay off the front end that may have been the bow stem.
- Boiler & capstan winch (Figures 18-20). These were located forward of the ballast pile. The boiler, which was lying on its side, was 1.6m in length and 0.7m in diameter. A hole on one end was most likely for its funnel (not seen) which together with the location of the stoking hatch suggested that it was installed in a vertical orientation. The remains of timber sheathing were evident on the outside of the boiler. The capstan winch was of the classic herring drifter design and was most likely made of cast iron. A large amount of copper pipework was also found associated with the boiler and capstan.
- Chain clump and mast tabernacle (Figure 21). A large lump of what appeared to be concreted chain was located next to the capstan winch. This may have been the anchor chain that would have originally been stored in an anchor locker, which has eroded away to leave just the chain. Another mast tabernacle was located beside the chain clump.
- Each of the features lying forward of the ballast pile were located to the port side of the heavy keel timber, which along with the orientation of the engine, support the conclusion that the vessel settled on its port side.
- Smaller artefacts recorded on the site included:
 - Two fisherman's type anchors, one lying on the ballast pile and one near the propeller (Figure 5);
 - Various china cups and plates;
 - A glass cover, function unknown, possibly a compass housing (Figure 22);
 - A copper saddle tank associated with the boiler (Figure 23); and
 - Scattered pipework and small sections of timber.
 - A small section of cloth material lying on the seabed at the forward end of the ballast pile (Figure 24).
 - Several sets of bits and cleats in the bow area.

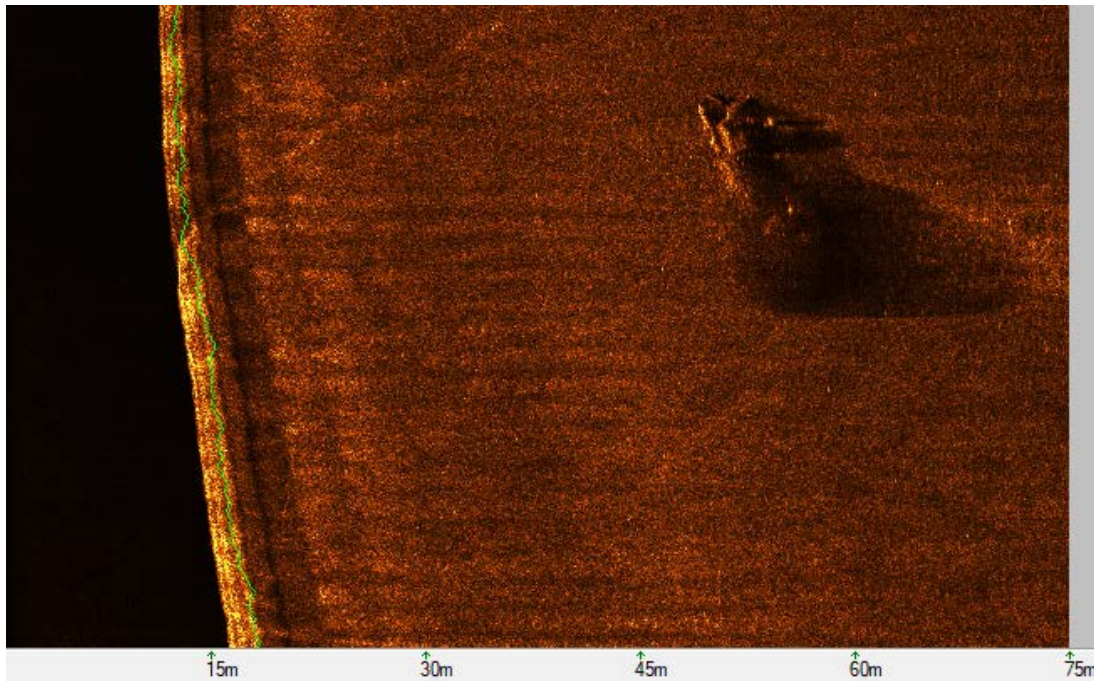


Figure 2: Side scan sonar image of the wreck site collected on 1st February 2018, showing obscured part of the site. The sonar shadow to the right of the site suggests the presence of a confounding feature over the site although there is no hard return.

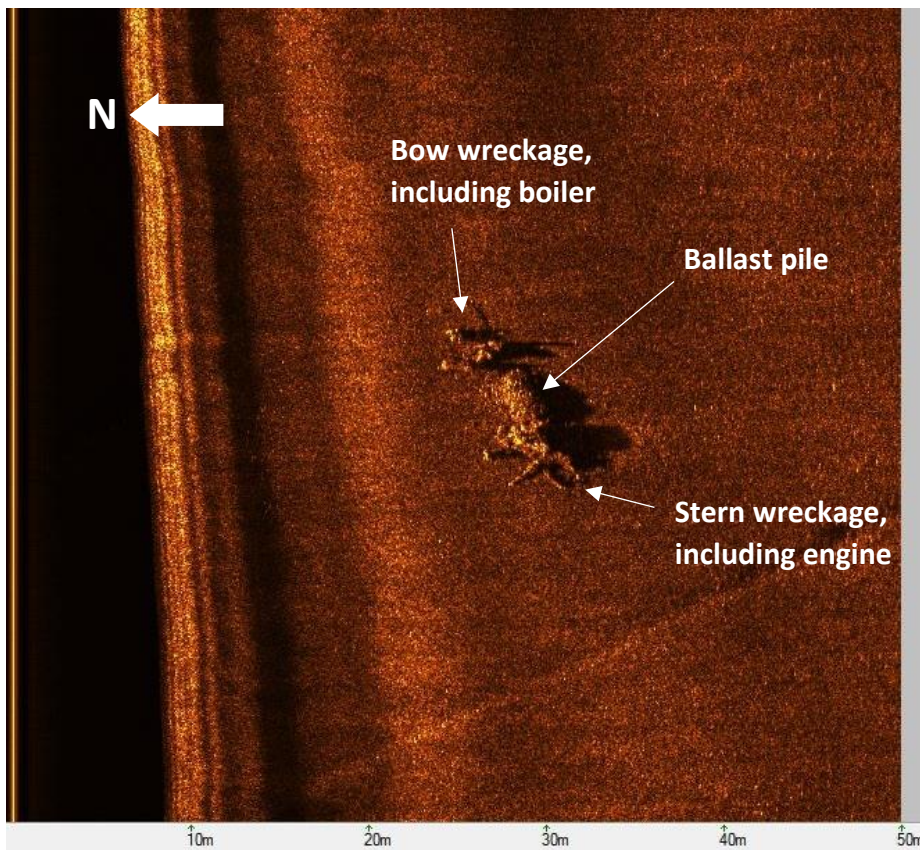


Figure 3: Sonar image of the site collected in June 2016 using medium frequency (325 kHz) in June 2016. Features noted from the drop camera survey are shown.

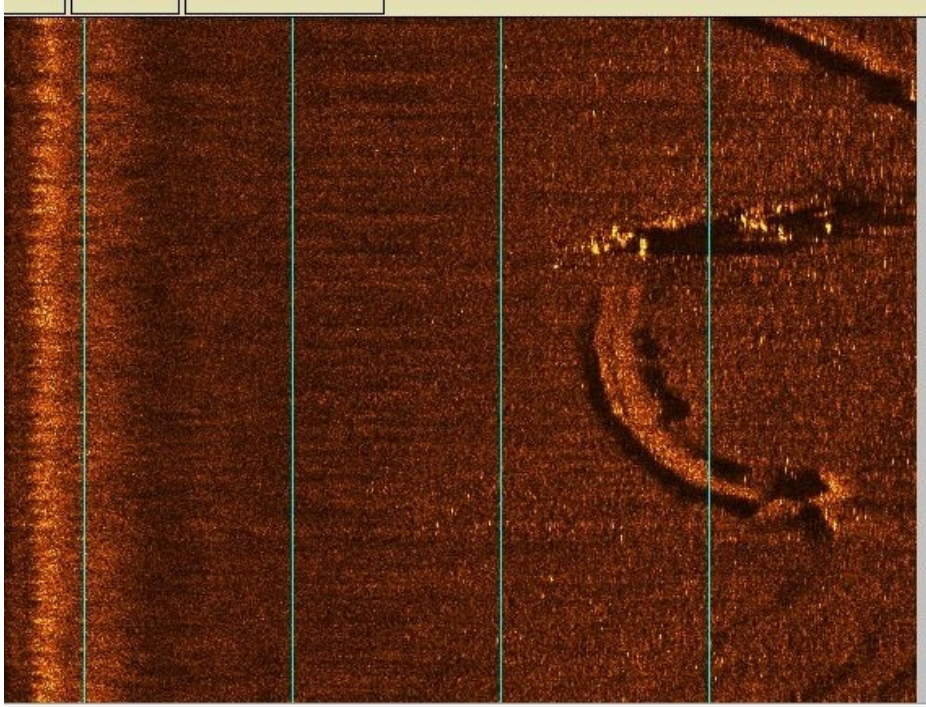


Figure 4: Original sonar image of the site collected using medium frequency (325 kHz) in January 2016, showing a drag mark on the seabed close by the wreck.



Figure 5: Stern area of wreck, showing propeller in foreground, shaft and engine to the rear. A fisherman's type anchor is shown to the right and a mast step to the left.



Figure 6: The propeller shaft passes through a metal box, probably a thrust block, as it runs forwards to the engine.



Figure 7: The propeller shaft and gearbox flanges (lower left) were separated, with the shaft lying at an angle to the line of the engine and gearbox. Concrete ballast is visible to the left side of the image.



Figure 8: Two-cylinder engine with large fly-wheel on forward end. Start of ballast pile to left of image.



Figure 9: Looking aft over the ballast pile towards the engine.



Figure 10: Close up of engine showing two cylinders, flywheel and mounting frame. The engine had fallen to port, exposing the concrete ballast below (left of image).



Figure 11: Concrete ballast below engine showing rib voids.



Figure 12: Engine with automatic oiler box box and pipe work in foreground.

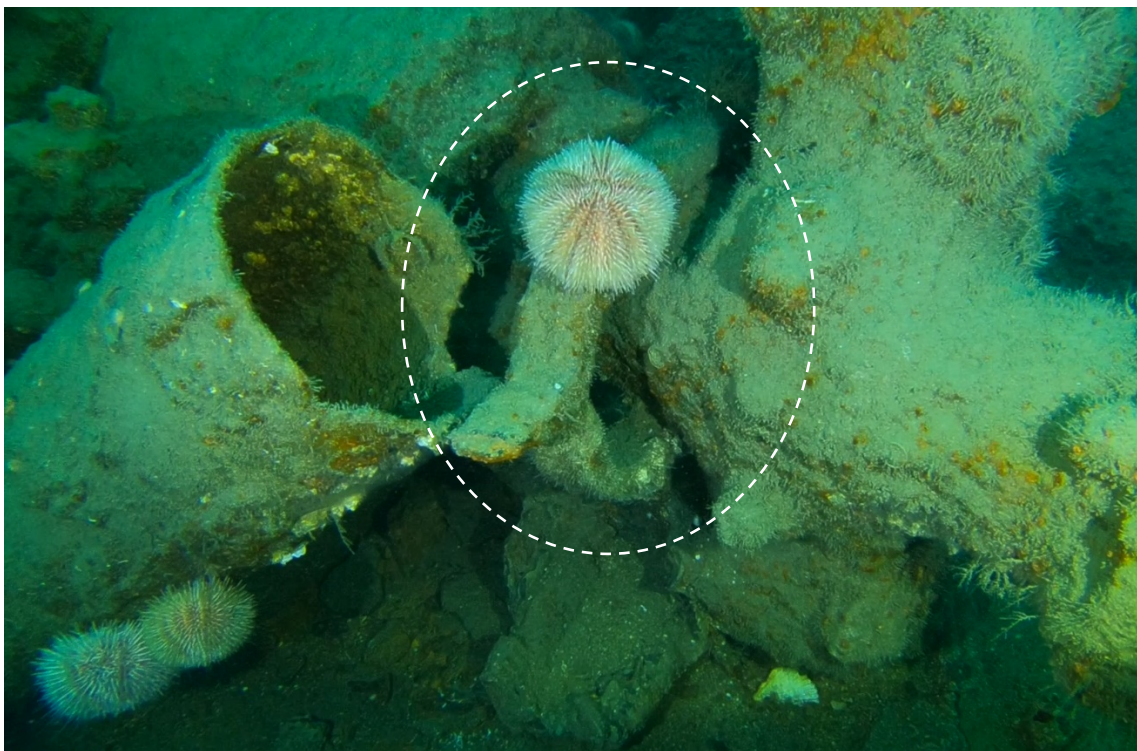


Figure 13: Engine gearbox showing remains of gear change lever (circled).



Figure 14: Metal cylinder lying next to the engine, possible the ship's helm. Broken glass was lying on one side of this item, possible from the wheelhouse windows.

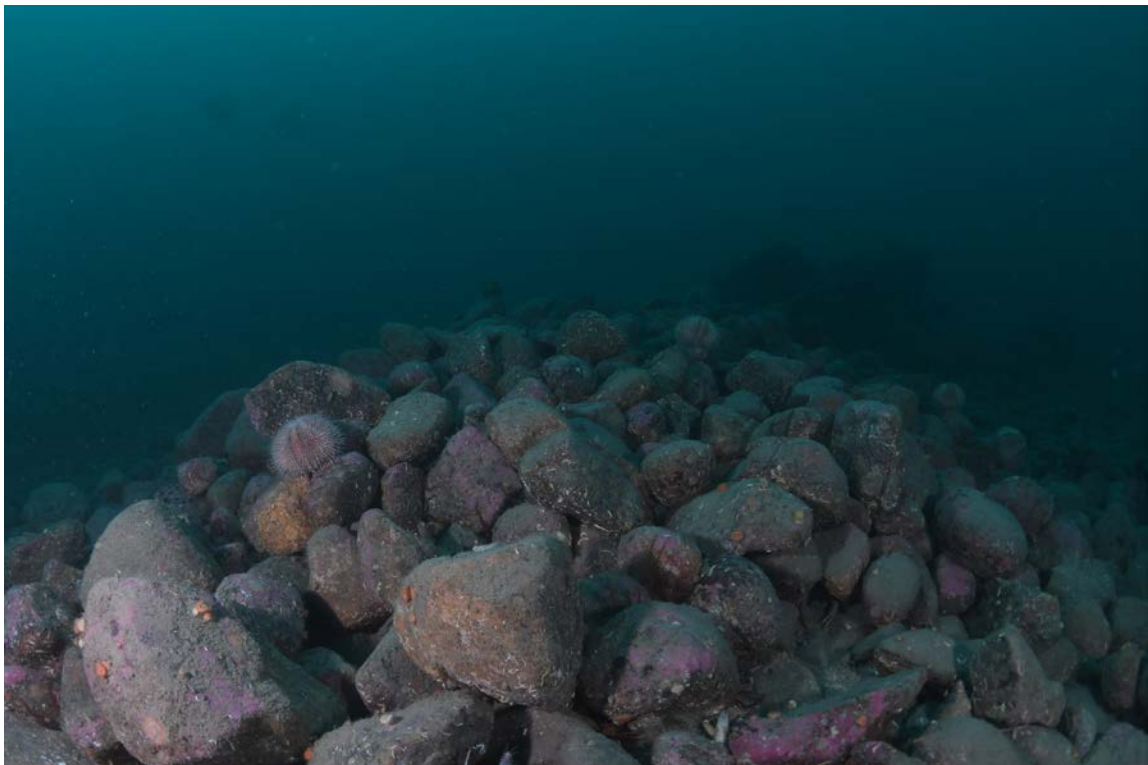


Figure 15: Ballast pile, comprising rounded beach cobbles. The engine is just visible in the background.



Figure 16: Heavy timber buried in the seabed with copper nail heads.



Figure 17: Forward end of timber and possible bow stem to left of image.



Figure 18: Group of objects lying forward of the ballast pile (visible to right of image), including a boiler (foremost), capstan winch (to left), mast step and anchor chain (rear of group).



Figure 19: Boiler and associated pipework.



Figure 20: Capstan winch typical of herring drifters.



Figure 21: Lump of concreted chain with mast step behind.



Figure 22: Glass cover, function unknown, possible from a compass housing.



Figure 23: Copper saddle tank among boiler pipework.



Figure 24: Patch of material lying on the seabed, just forward of the ballast pile.



Figure 25: Engine pipework.

4. DISCUSSION

The survey work described above provided detailed information on the extent of the site and the contents therein. The main findings were as follows:

- The wreck site was approximately 22m long lying on a southwest – northeast orientation in a water depth of approximately 32m below mean high water level. The seabed in the area was sedimentary in nature, comprising a muddy gravel substrate.
- The wreckage appeared to be that of a timber vessel which had settled on its keel and fallen over to port. The timber elements of the vessel had largely rotted away although a heavy keel timber was still evident as well as several small boards.
- The main features of the wreckage included propeller and shaft, two-cylinder engine, ballast pile, boiler, capstan winch, anchor chain and mast steps, with associated smaller items of debris.
- The layout of the main features described above suggested that there had been minimal site disturbance. However, the propeller shaft appeared to have been dragged a short distance away from where it might have originally settled.

No evidence of the site being disturbed (apart from the propeller shaft) was recorded and there appears to be no local knowledge of a wreck in this area. There is little recreational diving activity in this area, which is focussed mainly on the wrecks of the German High Seas Fleet located several nautical miles to the west. The site also lies among a number of anchorages used by the local authority for oil and gas tankers that regularly frequent Scapa Flow. There is therefore little justification or opportunity to dive in this area, which may partly explain why this wreck has remained undiscovered until now.

The survey provided no information as to the identity of the vessel. The initial drop camera footage showed an engine and boiler and capstan winch, which suggested the vessel may have been a steam powered herring drifter. As well as fishing around the Orkney area in the late 1800s and early 1900s, drifters were frequently commissioned by the Royal Navy to provide support and service duties during periods when Scapa Flow was used a naval base, particularly during World War One. Archive research indicates that a number of drifters have been lost in the Orkney area (see Table 1). In relation to those lost in Scapa Flow, remains thought to be those of Her Majesty's Drifter (HMD) Chance were discovered in 2016 between the islands of Fara and Flotta. The remains of the Imbat, Rose Valley and Dewey Eve are also known and charted, leaving the remains of the Catherine, Susie Ross, Token, Ruby and Legend still unaccounted for. Of the latter group, all were steam drifters apart from the Legend.

It was initially thought that the remains found here could be those of the Susie Ross. Nothing is known about the circumstances of its loss or where it happened, the location simply given as "Scapa Flow" (Reid, 2002). At 72 feet in length, it was the smallest of those still unaccounted for and corresponds to the approximate size of the wreck site. It was also the only one to have a vertically mounted boiler (Elliot & Gerard, 1901), which matches the type of boiler found on the wreck site. However, the dive survey effectively discounted the possibility that this was the Susie Ross as a closer inspection of the engine confirmed that it was a fuel driven engine, rather than steam driven. This was indicated by the presence of a gearbox on the rear of the engine and hot bulbs on the top of each of the two cylinders. This helped to explain why the boiler was not located next to the engine, but on the other side of the ballast pile in the bow area of the wreckage. Assuming this was its original position it was concluded that the boiler was used to power the capstan winch, which was lying close by.

Table 1: Records of herring drifters lost in the Orkney area.

Year of loss	Vessel	Registration	Location of loss	Reference
1899	Dewdrop	No data	Stronsay	Whittaker (1998)
1901	Glengairn	A203	Copinsay	Whittaker (1998)
1909	Merlin	A 44	Eday	Whittaker (1998)
1916	Laurel Crown	FR 506	Marwick Head	Whittaker (1998)
1916	Chance	WK 270	Scapa Flow	Reid (2002)
1941	Imbat	PD 105	Scapa Flow (Lyness)	Whittaker (1998)
1942	Rose Valley	INS 94	Scapa Flow	Reid (2002)
1942	Catherine	No data	Scapa Flow	Whittaker (1998)
1919	Susie Ross	WK 325	Scapa Flow	Reid (2002)
1940	Dewy Eve	FR 269	Scapa Flow (Gutter Sound)	Whittaker (1998)
1941	Token	BF 103	Scapa Flow (Skerry Sound)	Whittaker (1998)
1942	Ruby	No data	Lamb Holm	Whittaker (1998)
1942	Legend (ex Pearl)	No data	Flotta	Whittaker (1998)
1917	South Esk	ME 195	Stronsay	Heath (2010)
1905	Evangeline	BF 1592	Stronsay	Whittaker (1998)

This evidence prompted further archive work to determine the name of the vessel. This resulted in the discovery of local newspaper reports (The Orcadian, Thursday 19th February, 1920) that described the loss of a “motor boat” that caught fire and sank in Scapa Flow on the 14th February 1920 (see Appendix 1). The vessel’s name was reported as the Edendoun of Findochty that had set sail from St Mary’s in Holm on the east side of Scapa Flow for Stromness, where repairs were to be carried out. The crew of four abandoned the vessel to a small dingy and managed to row ashore. A similar article appeared in the Dundee Courier also on the 19th February. Further research confirmed the vessel’s correct name as the Edindoune, a herring drifter from Findochty (BF1118). Fires on British ships were recorded at the time and the following report was identified at the National Archive in Kew - “Fires on British Ships 1919-1920” (MT15/340), an extract of which is shown in Appendix 2. This describes the loss of the Edindoune at position 3 miles “south-west” of Scapa pier. The wreckage found here is located exactly 3 nautical miles from Scapa pier on a present bearing of 193° (T) from the end of Scapa pier (Figure 26). In 1920, allowing for magnetic variation, the bearing would have been approximately 211° (M), which is only 14° from a south-west heading. The report details that the vessel had initially set out under sail and as the engine was being heated prior to starting, the lit blow lamp was dropped into the bilges where used engine oil had accumulated. This started a fire which quickly spread through the ship and resulted in its loss.

The Edindoune was a Zulu type herring drifter built in 1903 by Alexander Cormack of Gordonsburgh, Buckie, for James Flett, John Flett and Alexander Flett, from Banff. The Edindoune was 79 feet long, 20.35 feet wide, had a draught of 8.25 feet and a net tonnage of 47.67 tonnes. When built she was fitted out with a with foresail, mizzen and jib and a steam driven capstan to help pull the nets and raise the sails. Traditionally these steam capstans were located towards the aft of the vessel with the associated upright boiler in the accommodation space below (see schematic in Appendix 3). After commissioning it mainly worked in the drift net fishery for herring on the east coast of Scotland. Its

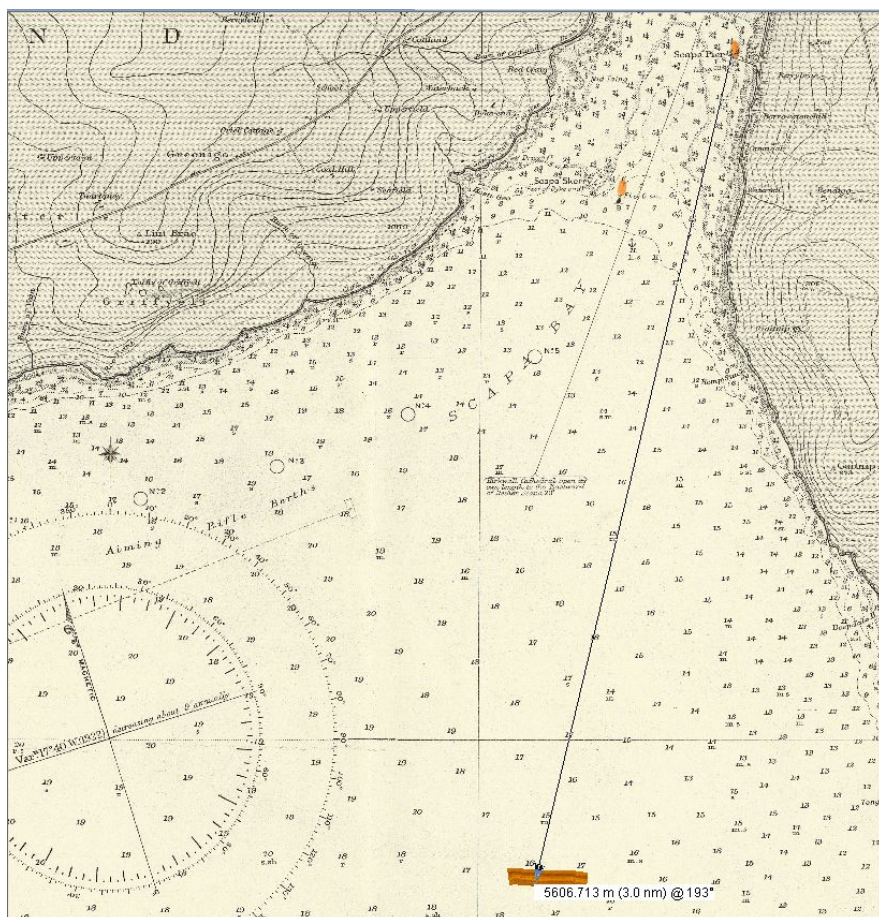


Figure 26: Location of wreckage as measured from Scapa pier, showing it to be exactly 3 nautical miles on a present bearing of 193° (T).



Figure: 27. A converted Zulu of the same style as Edindoune showing the capstan forward and new wheelhouse. (Glenn McIntosh).

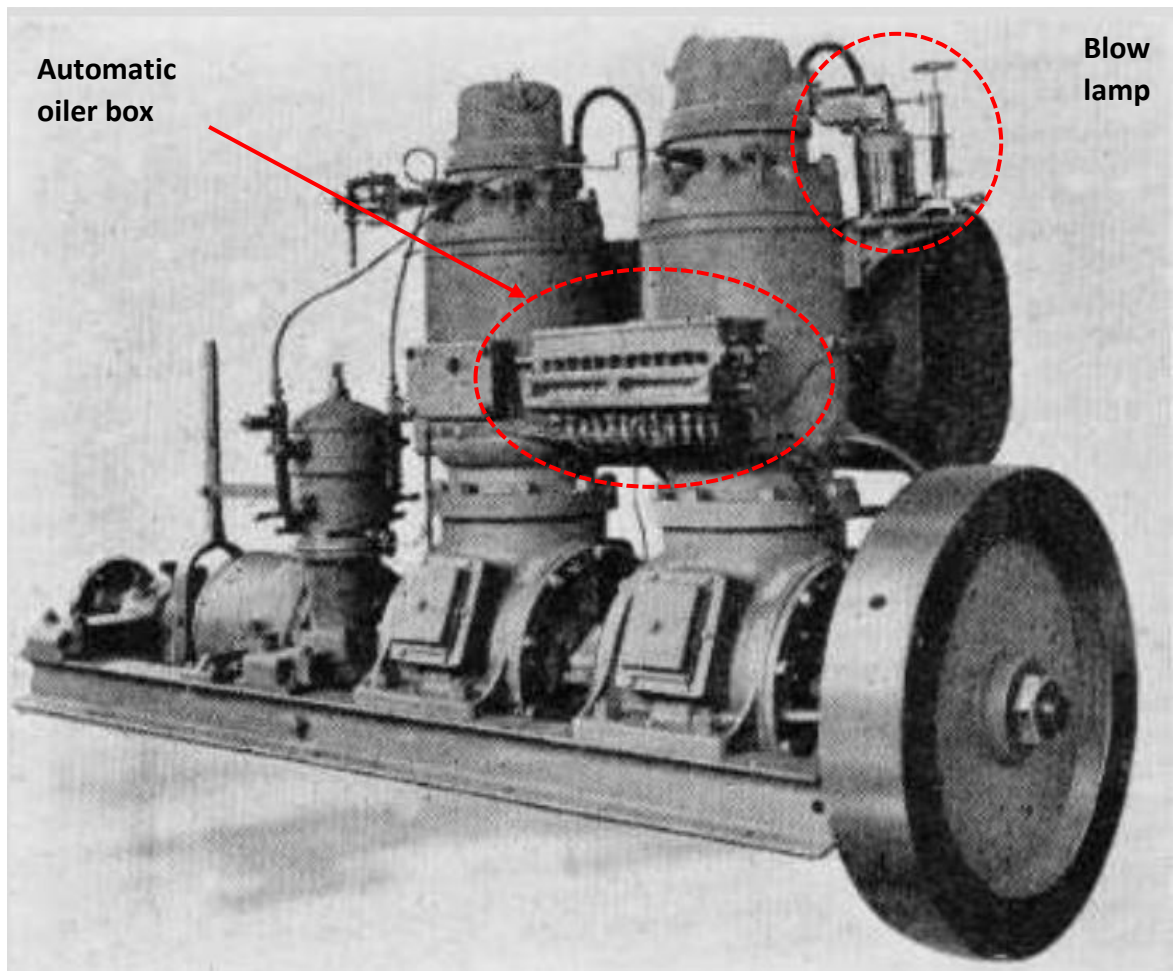


Figure 28: Woodward 2-cylinder hot bulb engine (top) compared to a photogrammetric image of the engine on the wreck (bottom). The automatic oiler and blow lamp are circled in the top image.

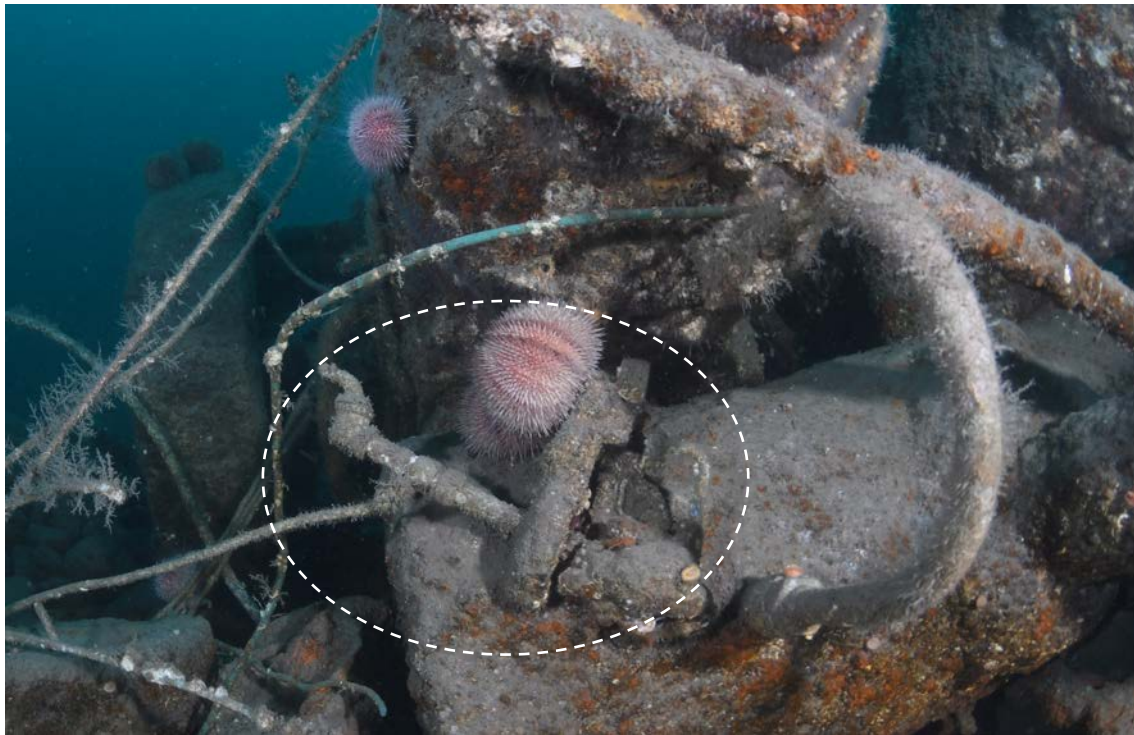


Figure 29: Small item (circled) lying on the engine that may be the blow lamp used to heat the glow plugs on this type of engine. The blow lamp was dropped into the bilges and started the fire that sank the Edindoune.

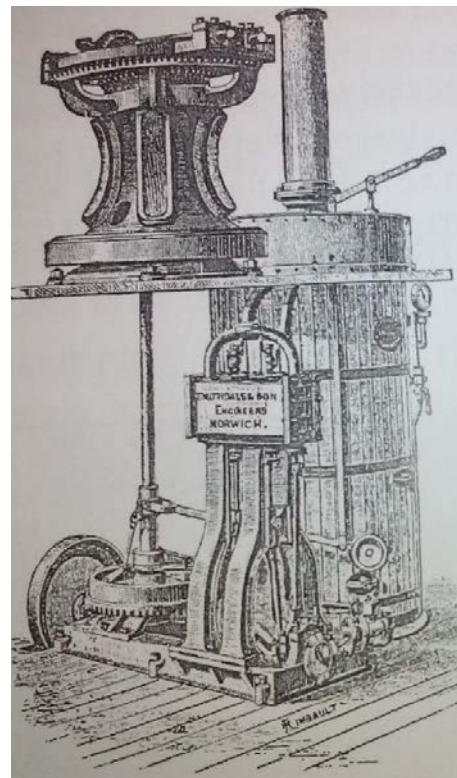


Figure 30: Deck capstan on a herring drifter with funnel behind (left). Typical arrangement of steam powered capstan showing the vertically mounted boiler below deck (right).

catches are mentioned in several newspaper reports, as is a prosecution for being in a prohibited area on the night of 31st July 1916 (see Appendix 1). In October 1919 the Edindoune was sold to John Flett, Isaac Flett and David Flett of Findochty and a Woodward of Keighley, 80 H.P internal combustion motor of a two-stroke cycle, two cylinders and hot bulb ignition was installed¹. A picture of a similar converted Zulu is shown in Figure 27. The engine room was forward of the accommodation space at the stern, aft of the fish hold. The steam driven capstan was moved forward of the fish hold and a small wheelhouse was added above the engine room. These modifications match the findings of the diving survey, i.e. a fuel driven two-cylinder engine with hot bulb ignition and the forward positioned capstan and vertically-mounted boiler. A comparison between a Woodward engine and the engine found on the wreck (Figure 28) shows a close match. The automatic oiler box circled in that picture corresponds to the box and pipework lying beside the engine on the wreck site (Figure 12). A small item found lying on the engine may be the blow lamp that was the source of the fire that sank the vessel (Figure 29). An image of a similar capstan and boiler configuration is shown in Figure 30. This evidence, along with the location of the wreck being almost exactly as originally reported, leaves little doubt that these remains are those of the herring drifter Edindoune. The national and local (Banff & Mcduff) registration records of the Edindoune are shown in Appendices 3 & 4 and general information on the Zulu drifters is provided in Appendix 5. The reason why its loss is not reported in the usual literature (e.g. Whittaker, 1998) is unknown, but highlights the wisdom of a broad approach to archive research.

The discovery of this wreckage in 2016 is unusual, although as stated previously, there is little diving activity in this area of Scapa Flow. Previous multibeam echo sounder surveys of the area, such as that undertaken by Fathoms Ltd in 2010, failed to note its presence for unknown reasons, highlighting the advantages of side scan sonar as a tool for detecting objects on the seabed. The value of this site is subjective, although there is little doubt that it forms an interesting part of Orkney and Scotland's fishing heritage, especially considering the significant contribution made by the Zulu to the herring industry. There are no seaworthy Zulus left in existence although a restored example (the "Research") is housed in the Scottish Fisheries Museum in Anstruther, Fife.

As stated earlier, the site lies in an anchorage area used by large vessels associated with the oil and gas industry (the Flotta oil terminal is located on the island of Flotta and exports oil by tanker and ship to ship oil and gas transfers also occur in Scapa Flow). In recent years these anchorages have also been used for storage of accommodation and drill rigs associated with the North Sea oil industry. These typically require mooring spreads comprising 4 or 8 anchor lines over the seabed, so occupy a larger footprint than the traditional vessel mooring pattern. Anchor deployment therefore presents the main risk to this site in the future, although it may be possible to avoid the wreck now that its exact location is known and reported to UKHO (see Appendix 6). Fishing gear and diving may also impact the condition of the site although its location among designated anchorages is likely to limit such activity.

In summary, a side scan survey carried out in 2016 found an unidentified object on the seabed in the eastern area of Scapa Flow, Orkney. Initial investigations showed the wreckage of a vessel, including an engine, ballast pile and boiler. This survey provided detailed information on the wreck site and its

¹ The report MT 15/340 states that Edindoune was fitted with a Woodward 2-cylinder hot bulb engine. Woodward at the time were situated in Keighley Yorkshire but have since moved to Hull. A & E Woodward Ltd of Hull were contacted and David Woodward, the grandson of the original founder said at that time Woodward's did not make engines but modified and re-badged engines from two other Keighley based companies and confirmed the engine on the wreck to be a rare Invincible hot bulb engine, built by the Invincible Engine Co Keighley, and was one of the engines Woodward brought and fitted into fishing vessels at that time.

extent and condition. The wreck was the remains of a timber vessel, with a fuel driven two-cylinder engine. A propeller, shaft, ballast pile, capstan winch, boiler, anchor chain, mast steps and associated debris were also found on the site. Archive research revealed that the remains were almost certainly those of the herring drifter Edindoune (BF1118), a Zulu-type drifter, lost in Scapa Flow in February 1920 while en route from St Mary's to Stromness. The wreck has some importance in the context of Orkney and Scotland's fishing heritage but is at a moderate degree or risk from nearby anchoring activities associated with port operations.

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Appendix 1: Newspaper articles relating to the Edindoune obtained courtesy of the Orkney Archive and the British Newspaper Archive (www.britishnewspaperarchive.co.uk)

Articles relating to the sinking of the Edindoune:

- *The Orcadian. Thursday 19th February 1920.*

Local News

"MOTOR BOAT OF FIRE. - A motor boat belonging to Findochty, took fire in Scapa Flow on Saturday last and sank. The boat left Holm on Saturday evening, and was making for Stromness for repairs, when the engine room caught fire. Every effort was made to save the boat, hatches were closed down, and a hose brought into use, but without success. The crew of four men, recognising that efforts to save the vessel were hopeless, abandoned her, and arrived in their small boat at Scapa Pier the same evening. The crew lost practically the whole of their effects."

- *The Orcadian. Thursday 26th February 1920.*

Local News

"The name of the motor boat sunk in Scapa Flow on the 14th, with reference to which a paragraph appeared in last week's issue, is the Edendoun of Findochty. "

- *Dundee Courier. Thursday 19th February 1920.*

"FISHING BOAT BURNED AT SEA.

A motor boat belonging to Findochty has been lost in Scapa Flow by fire. The boat left Holm, Orkney, and while she was making for Stromness for repairs the engine-room caught fire. Every effort made to save the boat proved fruitless. "

Articles relating to the fishing history of the Edindoune:

- *Inverness Courier Tuesday 6th March 1906.*

"Edindoune Findochty, 60 crans"

(A cran is a unit to measure landed uncleaned herring which equates to one standard box of about 37.5 imperial gallons which is about 1200 fish.)

- *Aberdeen Press and Journal on Saturday 5th February 1916*

"Edindoune (BF.), 52 cod, 4 flounders, and 2 rookers; "

- *Aberdeen Press and Journal on Saturday 12th February 1916*

"Edindoune, (BF.), 178 cod at from 3s 7d to 5s 2d, one coalfish at 1 s 4d, and several roker at 15s 6d for the lot: "

(Roker is a thornback ray)

- *Aberdeen Weekly Journal, Friday 15th September 1916.*

"Findochty.

FISHING IN PROHIBITED AREA.- In the Banff Sheriff Court on Tuesday, James Flett, fisherman, 123 East End, Findochty, being master of the sail fishing boat Edindoune BF.118 was charged with having the boat underway on the night of the 31st July in a prohibited area in contravention of the Admiralty notice to mariners. Accused admitted the offence, and was represented by Mr A.T.Lowe, solicitor, Buckie. It was explained that the boat had been delayed by calms. A fine of 30s was imposed by Hon. Sheriff-Substitute Colville, and was paid in Court. "

Appendix 2: Report on fires which occurred or were reported on British ships 1919-1920, courtesy of the National Archive, Kew.

Form C.B. 8. (x) (372426) Wt. 22550/8502 5000 11.21 W & S Ltd

Board of Trade. **C.B.** 2332 Consultative Branch.

Date of Paper. Correspondent's Reference. From whom.

M.M. DEPT. MT 15/340

Date Registered. Subject.

31. 3. 22.

Departmental Paper No. 377 - Reports on Fires which occurred or were reported on British Ships during period 1/8/19 and 31/7/20

Previous papers.

C.B.

Pocket ESC. 592.

Referred to.

1919-1922

NOT TO BE DESTROYED

9961 100 02

N.B.—The person to whom the Minute is addressed is requested to write his observations on this sheet, and return it to the Consultative Branch, Board of Trade Offices, 68, Victoria Street, London, S.W.1, with the papers attached, as soon as possible.

These papers are to be regarded as CONFIDENTIAL, and should NOT be exhibited to the Public unless specially authorized.

Name.	Date.	Name. (MINUTES.)	Date.	Name.	Date.
Mr. Voss	3/13				
Register	6/4				
Mr. Dunt	6/4				
Mr. Dunt					
C.B.	21/2				
P.A.	3.11.				
Mr. Lyons	29/130				
R	27/8				

"Edindoune." Banff. BF 1118.	St. Mary's Holm, Orkneys, to Strom- ness (fishing vessel).	- - - -	When three miles south-west of Scapa Pier, Orkneys, on 14th February 1920, blow lamp for paraffin motor engine was acci- dentally upset and fell into the bilges, setting vessel on fire. Total loss. All the used lubricating oil was allowed to run away to the bilges before being pumped over- board.
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No. 79.—S.S. "EDINDOUNE" of Banff. B.F. 1118. Gross tonnage, 57.

Report on fire which occurred at Scapa Flow on 14th February 1920.

Board of Trade Surveyors' Office,
Aberdeen,
15th April 1920.

SIR,

IN accordance with instructions given on M. 14974/19, dated 22nd March 1920, I respectfully submit the following report.

The "Edindoune" was a fishing boat registered under Part. IV of the Act, length about 80 feet, and owned by three brothers Flett, of Findochty, and John Flett was the skipper.

She was propelled by an 80 H.P. internal combustion motor of a two-stroke cycle with two cylinders and hot bulb ignition, made by Messrs. Woodward of Keighley. It was installed in October 1919 and was fitted aft of the fish hold and forward of the crew's quarters.

The vessel was proceeding under sail from St. Mary's Holme to Stromness on 14th February, and the engine was being heated previous to starting, when one of the lighted blow lamps fell into the bilges and set fire to the woodwork, which was impregnated with oil. The fire spread rapidly and forced the crew to abandon the ship, which eventually sank about 2 miles S.W. from the lighted buoy at Scapa, after an explosion occurred in the engine-room.

The fuel tanks were situated aft in the engine-room and contained over 400 gallons of paraffin. Both tanks had a draw-off cock fitted, but there does not appear to have been any vent led to the deck on either.

The bilges under the engine were cemented out to within 4 inches of the floors, but there was not any tray under the engine or under the fuel tanks. The arrangement

CE64 11 23

FROM NATIONAL RECORDS OF SCOTLAND - NOT TO BE REPRODUCED WITHOUT PERMISSION

FISHING BOATS IN SCOTLAND.

Name and Address of Builder *Alexander Cramack, Inverness.*

Breadth.		Depth.		Tonnage.		Number of Crew.		No. of Entry.	Date of Entry.	Name of Skipper.	Remarks.	Certificate produced for Endorsements, &c.
Port.	Starboard.	Port.	Starboard.	Gross.	Net.	Men.	Boys.					
20	35	8	25	57	50	47	6	1	7.4.03	James Fleth		<i>3/12/03</i>
<i>W. D. Purvis</i> Registering Officer. Dated <i>7th April 1903</i> <i>10 Date 1903</i>												

REPAYMENTS OF MORTGAGES.

Col. 7.	Col. 8.	Col. 9.	Col. 10.	Col. 11.	Col. 8.	Col. 9.	Col. 10.	Col. 11.
Remarks.	Letter denoting Mortgage.	Date of Repayment.	Amount.	Date of Entry and Initials of Officer.	Letter denoting Mortgage.	Date of Repayment.	Amount.	Date of Entry and Initials of Officer.
<i>W. D. Purvis Rep. 10/5</i>								
<i>W. D. Purvis Rep. 8/10/03</i>								
<i>W. D. Purvis Rep. 8/10/03</i>								
<i>W. D. Purvis Rep. 7/5</i>								
<i>W. D. Purvis Rep. 10/5</i>								
<i>Carried to Register 6 folio 55.</i>								
<i>W. D. Purvis, Rep. 10/5</i>								
<i>Discharge of Mortgage</i> <i>D. in execution of Act</i> <i>Register 6 folio 55</i> <i>W. D. Purvis</i> <i>10/9/06</i>								

Transferred from Register A folio 150.

REGISTRY OF SEA

A.

Port BANFF

Name of Boat Edmondine

Letters

(If other than Letters of Port.)

Registered Number.			Port or Place to which Boat belongs.	Description of Boat.		If Registered under Merchant Shipping Act.		Length of Keel.	Length.	
1st Class.	2nd Class.	3rd Class.		How propelled, Rig and Sail used.	Mode of Fishing.	Official Number.	Port Number and Year.		Fath.	Tenths
1118			Fishersley	Sailing. hug. Jk. Farnes & Muzzey Motor 1900	kets + Lines			87. 60.4	79	00
			1900. Bushel.							
Names, Residence, and Description of the Owners and Number of Shares held by each Owner.			James Flett, John Flett, Alexander Flett, John Flett, Charles Flett, David Flett. } all of Fishersley in the County of Banff. Joint Owners. 16 Shares							

B.

BILLS OF SALE, MORTGAGES, AND TRANSMISSIONS.

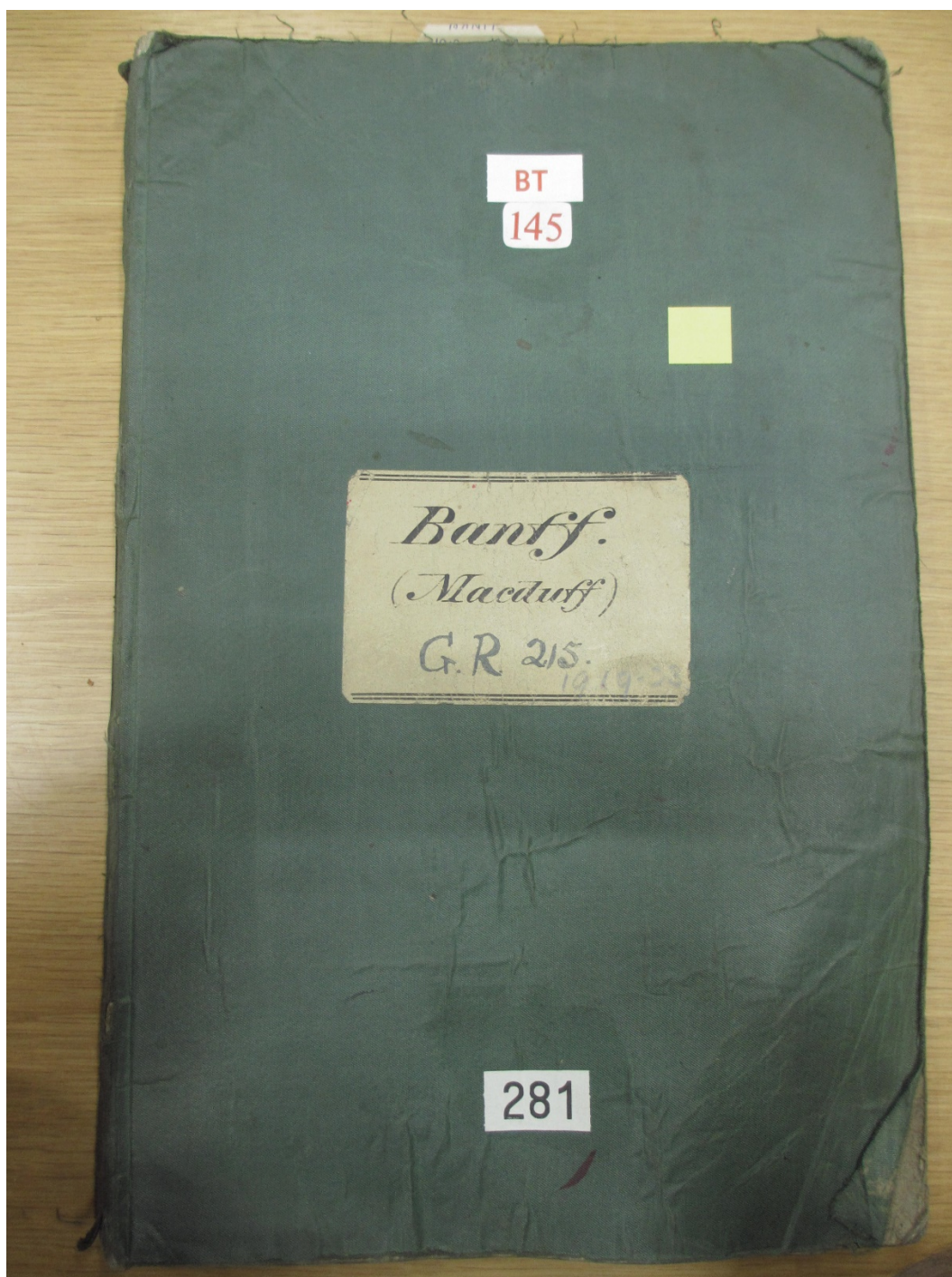
Col. 1.	Col. 2.	Col. 3.	Col. 4.	Col. 5.	Col. 6.
No. of Transaction with if a Mortgage Letter denoting same.	Date of Record.	No. of Shares Transferred.	Name of Person from whom Title derived.	Nature and date of Document or Transmission.	Name and description of person by whom Title acquired.
No. 9	1916 10 June	16	James Kennedy James Black	Discharge of Mortgage 2, 6 th May 1916 Receipt dated 12 th September 1916	James Flett, John Flett, John Alexander Flett, all of Fishersley in the County of Banff - Fishermen - Wilson's Receipt
10	1919 14 October 11 am	16	James Flett, John Flett and James Alexander Flett	Bill of Sale 3 October 1919	John Flett, James Flett and David Flett, all of Fishersley in the County of Banff - Fishermen - Wilson's Receipt
11	E. 30 December 1919. 2 p.m.	16	James Flett David Flett John Flett	Mortgage dated 20 th October 1919 to secure immediate cash loan of £1000 and interest.	North of Scotland and Town and County of Banff and the County of Shetland of the County of Shetland of the County of Shetland.
Lost by fire at Sea on 14 th February, 1920. Certificate cancelled and Registry closed except as regards Mortgage E. this 15 th March 1920. J. M. McKimley R.S.P.					

Breadth.		Depth.		Tonnage.		Number of Crew.		No. of Entry.	Date of Entry.	Name of Skipper.	Remarks.	Certificate produced for Endorsements, &c.
Feet.	Tenths.	Feet.	Tenths.	Gross.	Net.	Men.	Boys.					
20	35	8	25	57-50	47-67	7					Carried from Register A. folio 125. to record Transatlantic 9. Nov. 12/94. 10/9/16	
<i>W. H. L. L. L. L. L.</i> Registering Officer. From Register A. Dated 7. 4. 03												

REPAYMENTS OF MORTGAGES.

[illegible]

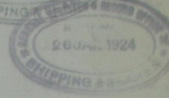
Appendix 4: Banff & Mcduff registration details for the Edindoune (Crown copyright, National Archive at Kew, catalogue reference numbers BT 145/281.



9.12.19 from Dundee Coll
12.12.19 Shipping Coll
26.9.20 AK Coll



G.R. 215.



Port of **BANFF**

RETURN OF FISHING BOATS

registered at the above-named Port in accordance with Part IV. of the Merchant Shipping Act, 1894, and remaining on the Register at the end of each of the years 1919 to 1923 inclusive; giving the dates of the endorsement of the Certificates, the dates upon which new or duplicate Certificates were issued, particulars of the employment of the Boats, the number of Men and Boys required to work them, and an estimate of the number of Men and Boys employed in Fishing at the Port.

NOTE.—The names of Steam and Motor Fishing Boats are to be written in red ink. Motor Boats should be further distinguished by the letters A.M. (Auxiliary Motor) or M. (Motor without sails) after the name.

When registers are closed and not re-opened the same year, the name, &c., should be ruled through and "Closed" written across the columns for the year in which the Certificate is cancelled. In cases of re-registry the date of registry, if already entered, should be altered.

When a Certificate in force has not been endorsed, issued, renewed, or cancelled in the year, the employment, if known, the date of the last transaction, and the tonnage should be entered in red ink.

^{gross}
The net tonnage ~~only~~ should be entered, fractions being stated (as decimals) in the case of 2nd and 3rd class boats. For 1st class boats fractions of less than a half are to be ignored and of one half or more to be counted as a whole ton.

Instructions as to the preparation of the Estimate of the number of persons employed fishing at the Port are given upon G.R. 217.

This Return is to be forwarded as early as possible in January of each year to the Registrar General of Shipping and Scamen, Tower Hill, London, E.C.

(1) (11316) W.L. 15228 7 250 T-18 W.B. & L.

Appendix 5: Background information on the Zulu type herring drifter.

In 1878 William Campbell, a Lossiemouth fisherman commissioned a new vessel to be built to a new design based on the best points of the two most popular herring drift net fishing vessels at the time, the Scarfie and the Fifie. This boat would be faster and larger and could go further afield.

The name Zulu was chosen for this design to commemorate the Zulu war which was taking place in South Africa at this time.

Until 1880 Zulu's were clinker built but later when larger more powerful vessels were needed the change was made to carvel construction.

With the advent of steam drifters many owners of Zulu's chose to motorize their vessels rather than build new and would save in cost. This required some modification. The engine was fitted in the space originally taken up by the capstan boiler and a little forward into the fish hold. The capstan was moved forward and a small wheelhouse was constructed over the engine room that housed the helm, compass and the controls for the engine.



Figure A4.1: Lerwick Zulu Fisher Lassie (Image courtesy of Glenn McIntosh)

Figure A4.1 shows a converted Zulu with small wheelhouse and funnel for steam winch forward. Also on the stern is a small dingy. The same type of small boat was used by the crew of Edindoune to reach Scapa after the vessel sank.

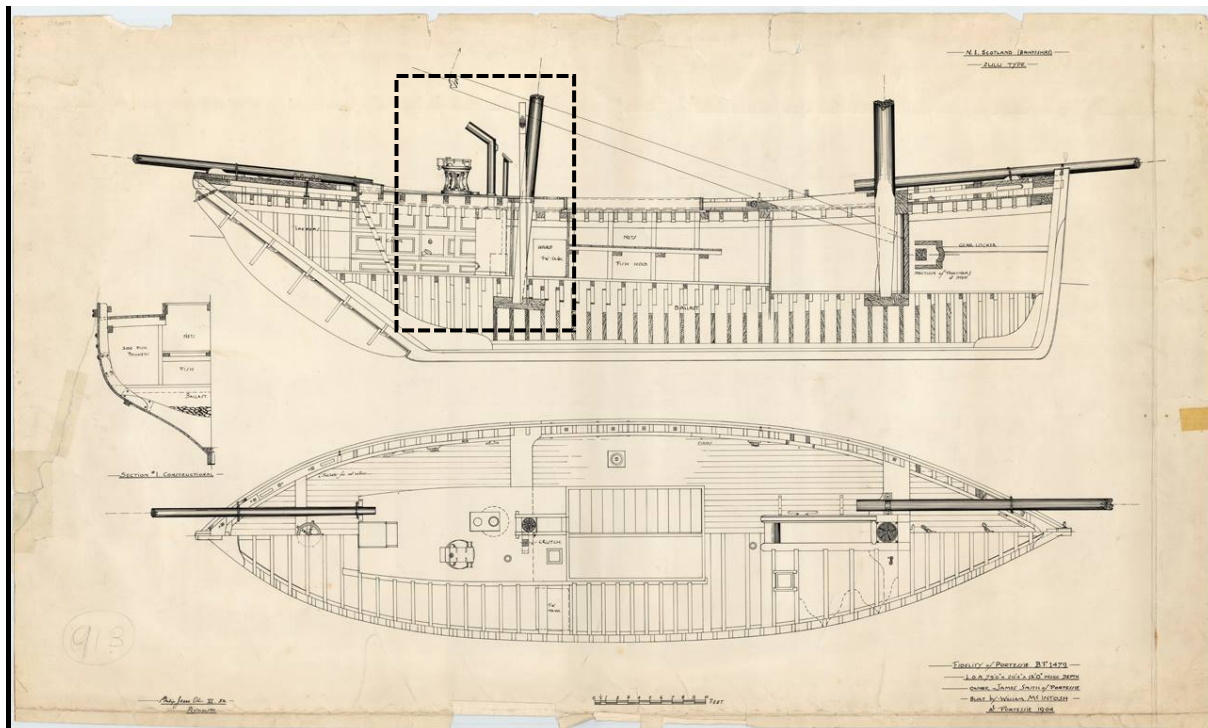


Figure A4.2: Plan of a Zulu with original boiler location highlighted (Image courtesy of Ships and Plans, National Maritime Museum, Greenwich).

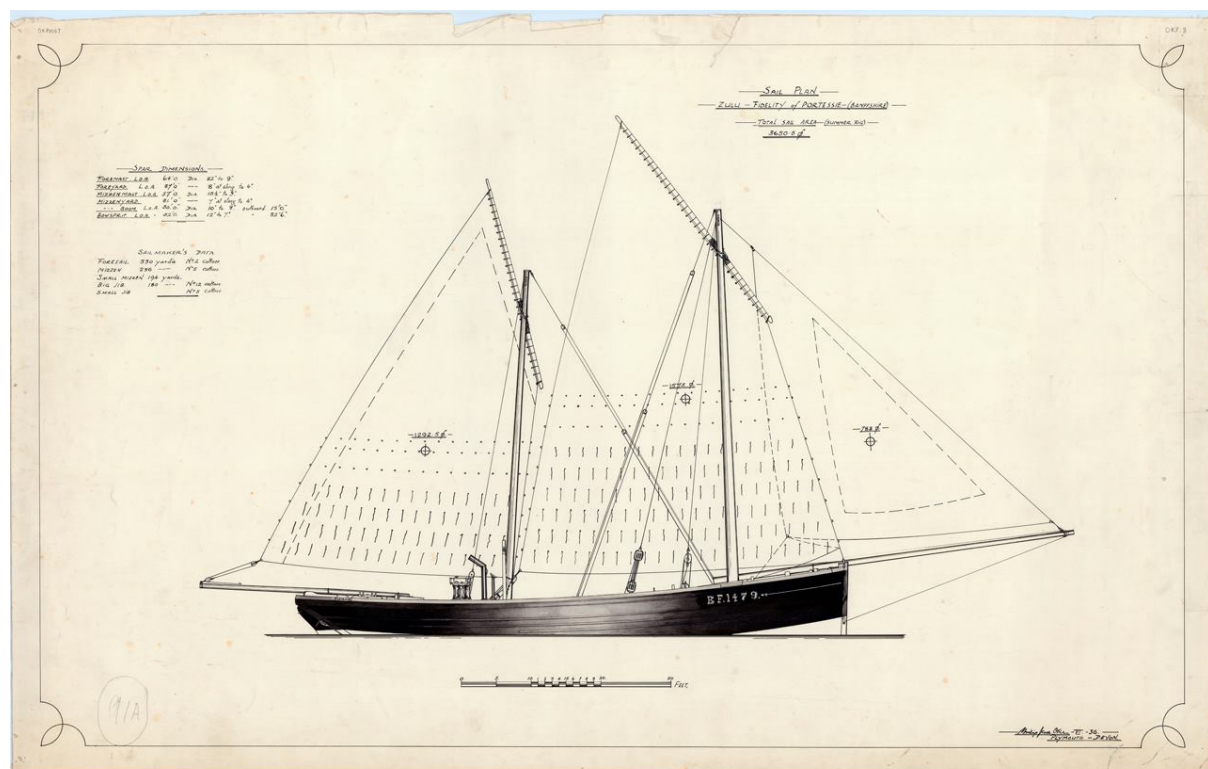


Figure A4.3: Rigging Plan of a Zulu (Image courtesy of Ships and Plans, National Maritime Museum, Greenwich).

Drift net fishing

The Zulu's were herring drifters . Long drift nets were set mid water at night and the vessel would drift with them until the morning or until it was known a good catch of herring had been caught then the nets would be hauled back onboard with the aid of the capstan.

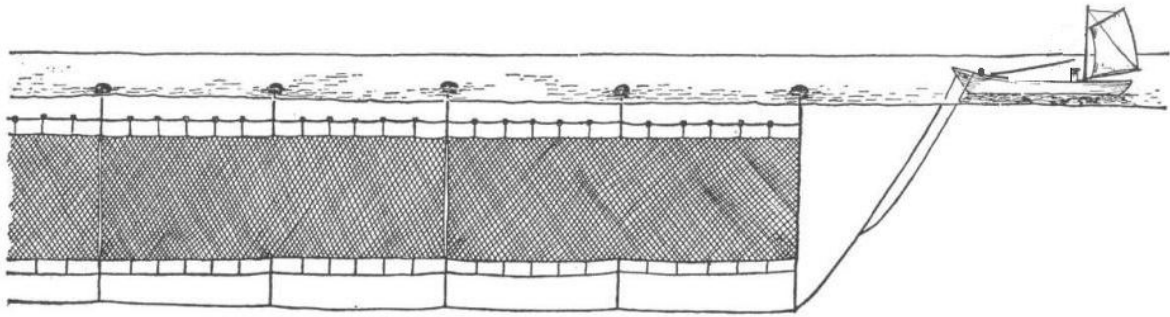


Figure A4.4: Drift netting

Appendix 6: UKHO wreck card, courtesy of Wreck section, United Kingdom Hydrographic Office.

UKHO Hydrographic Report

Wreck Number 84936 State = UNKNOWN Classification Unclassified
Chart Symbol Undefined Status --
Existence Doubtful -- Reported Year --
Date Last Amended 04/05/2016
Charting Comments
--
Wreck Category Dangerous wreck
WGS84 Position Latitude = 58°54'.493 N Longitude = 002°59'.363 W
WGS84 Origin --
WGS84 limits
--
Position Latitude = -- Longitude = --
Previous Position Latitude = -- Longitude = --
Position Accuracy --
Horizontal Datum WGS (1984)
Position Last Amended 04/05/2016
Position Method Global Positioning System
Position Quality --
Limits
--
Depth -- Water Depth 27 m
Depth Method Found by side-scan sonar
Depth Quality Depth unknown
Height --
Drying Height --
Vertical Datum Approximate lowest astronomical tide
Water Level Effect Always under water/submerged Bottom Texture --
Sonar Signal Strength --
Original Sensor Acoustic Sensor Last Sensor --
Conspic Visual NO Conspic Radar NO
Non-Sub Contact --
Contact Description --
Name DRIFTER
Type DRIFTER
Flag
Dimensions (m) LxBxD = --x--x--
Tonnage
-- --
Cargo
Date Sunk
Original Detection Year 2016
Last Detection Year --
Original Source National HO/authority wreck information
Last Source --
Sonar Dimensions
LxWxH = --x--x--
Orientation 90°
Magnetic Anomaly --
Debris Field
--
Scour Depth --
Scour Length --
Scour Orientation --
Markers
--
General Comments
--
Circumstances of Loss
--
Surveying Details
4.5.16 WK OF WOODEN DRIFTER LOCATED IN 5854.493N, 0259.363W [WGD]. WK WELL BROKEN UP LAYING ON PORT SIDE, ORIENTATED E/W. WRECKAGE AREA 30MTRS BY 8MTRS. LARGE ENGINE NO SIGN OF MAIN BOILER, LARGE PILE OF BALLAST STONES FWD OF ENGINE, LARGE ADMIRALTY PATTERN ANCHOR SITS ON BALLAST PILE. SMALLER ANCHOR SITS AFT OF ENGINE. FWD OF BALLAST PILE A SMALL COCHRAN STYLE CROSS TUBE BOILER, A CAPSTAN AND ANCHOR CHAIN. (KEVIN HEATH E-MAIL, DTD 2.4.16, SULA DIVING). INS DW.