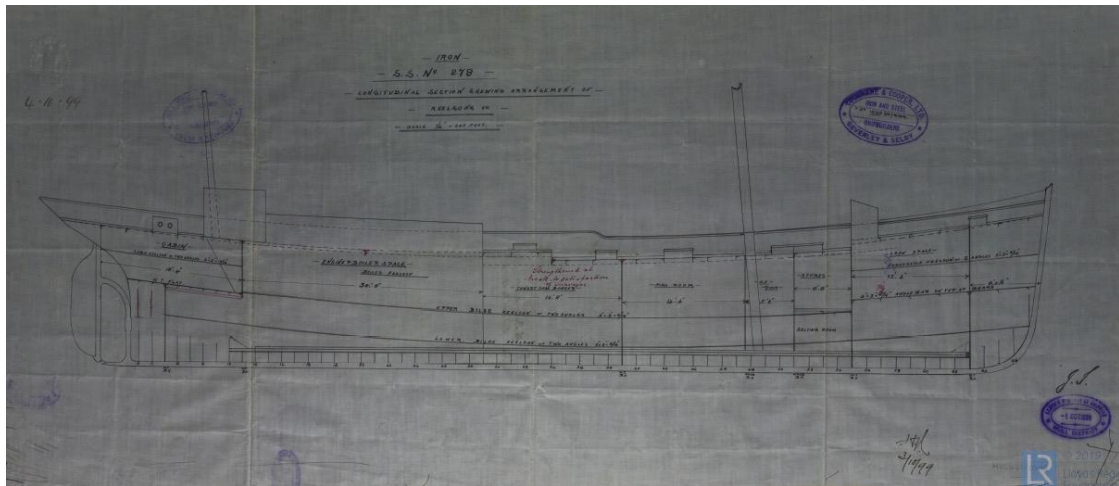


**Welsh Wreck Web Research Project
(North Cardigan Bay)
On-line research into the wreck of the:
*SS Duncan***



SS Duncan

Report compiled by:

Nigel Cossons

Report Title:

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1.0 Abstract

This report discusses the loss of the trawler *SS Duncan* in 1914. The trawler was built in 1900 by Cochranes, she was one of the last ships to come from their yard in Beverley before the company moved to Selby. She was registered at Grimsby although at the time of her loss she was sailing from Fleetwood. Contemporary newspaper articles mention several events in the life of the *Duncan* prior to her loss, including crew members who were lost at sea or passed away on board, and damage to the vessel.

In late 1913 the *Duncan* went aground at Fleetwood and the damage necessitated repairs in which metal work was replaced. Following this the owner required that her compasses be swung before she went to sea again and on her first voyage after the repairs, in January 1914, she sailed via the Lune Deep to do this. However, due to poor visibility the compass work could not be completed and she set sail without her compasses having been properly swung. After fishing as far south as New Quay and Lundy Island the *Duncan* was making her way north to fish on the Devils Tail south of Aberdaron when, on 1st February 1914, she ran aground on St Patrick's Causeway, the vessel started to break up and the crew abandoned ship and made their way to Pwllheli in their own boat. No lives were lost but the *Duncan* became a total loss. At the Board of Trade Inquiry the skipper claimed that the compass adjuster had said they would be all right and so he had set sail; whereas the adjuster noted this was not the case. The Court of Inquiry found the skipper at fault for the loss of the vessel and his certificate was suspended for four months.

Holden (2015 pg. 34) has speculated that the wreck located at 52° 42.278N 004° 19.660W may be the *Duncan*. The most significant remains reported at the site are a boiler but other wreckage is reported in the area, the discovery of the plans of the boiler of the *Duncan* could allow the identification to be confirmed. However, it should also be noted that a newspaper article from 1909 reported the *Duncan* returning to port with her boiler disabled. Although it seems unlikely given her age if this was a significant failure her boiler could have been replaced.

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2.3 Contributors

Key contributors: Nigel Cossons, Chris Holden, Ian Cundy

2.4 Abbreviations

CD	Chart Datum
GRT	Gross registered tons
MADU	Malvern Archaeological Diving Unit
NAS	Nautical Archaeology Society
nm	Nautical miles
NRT	Net registered tons
SS	Steamship

3.0 Introduction

In 2020 Malvern Archaeological Diving Unit (MADU) in conjunction with the Nautical Archaeology Society (NAS) commenced a project to research ship wrecks in Cardigan Bay. The project was based on a list of known wrecks in the area and individuals were asked to select a vessel, or vessels, as subjects for research. The project took place during the COVID pandemic and therefore the focus of the research was intended to be on web-based sources.

The SS *Duncan* was selected from the MADU list as a research topic as part of a group of steamships identified in the list of vessels wrecked in Cardigan Bay provided by MADU, along with the SS *Aberdeen* and the SS *Glendarroch*.

The objectives of the research were to establish:

- The vessels specification and details;
- The history of the vessel, including if possible how and why she was in Cardigan Bay;
- The circumstances of the loss, including if possible where this took place and details of what caused the ship to be lost;
- Any subsequent history following the loss of the vessel, including whether there was any salvage work undertaken; and
- Any information on the wreck, including the location and the current state of the wreck.

4.0 Background

The *SS Duncan* was wrecked in the northern part of Cardigan Bay on St Patrick's Causeway (known as Sarn Badrig), a reef that extends into the bay for some 15 miles from Barmouth. The reef dries at low water.

Key locations referred to in the report are shown in Figure 4.1 below.

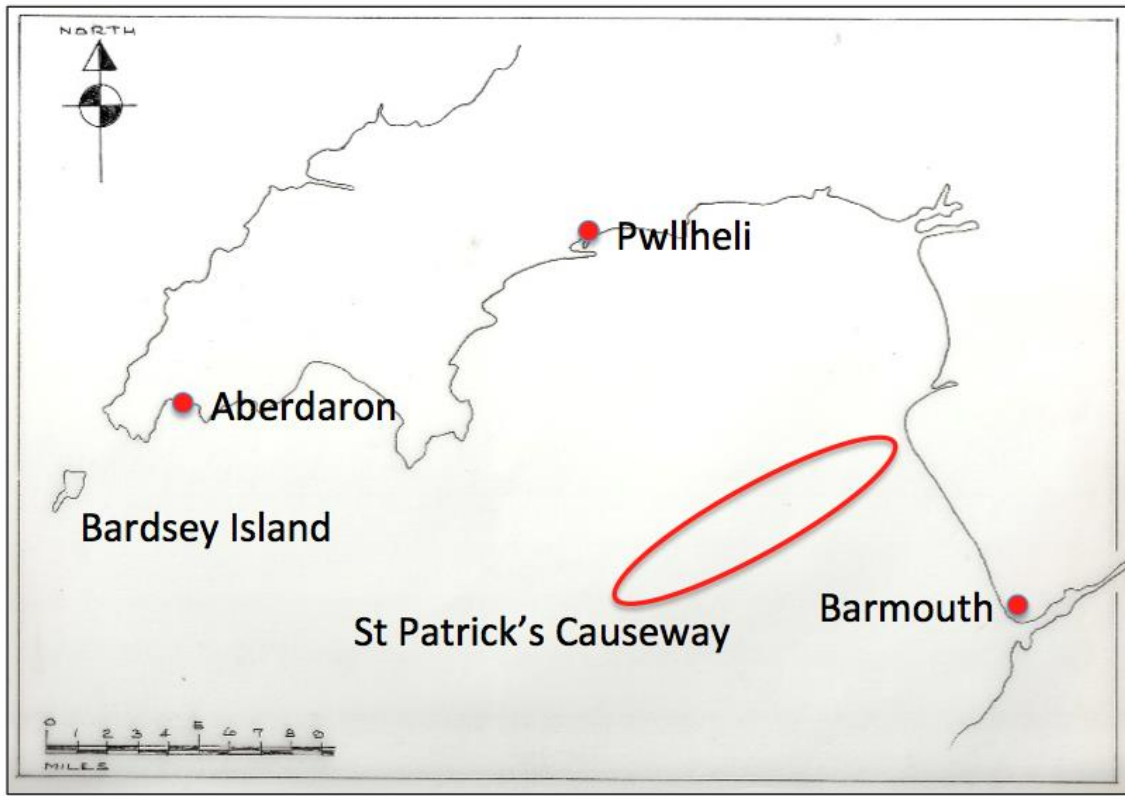


Figure 4.1 Key locations referred to in the report © MADU.

For the purposes of this report the reef is referred to as St Patrick's Causeway consistent with the terminology used in contemporary reports.

5.0 Research Methodology

Research was limited to web based sources. No archives were visited or consulted. A laptop computer was used for research principally using the Google website with the information recorded and collated in MS Word.

Searches around the following terms were used:

- *Duncan*;
 - Wreck;
 - Lost;
 - Causeway buoy;
- Sarn Badrig; and
- RNLi rescue.

Other sites were also used comprising:

- www.britishnewspaperarchive.co.uk - for historic newspapers;
- www.library.wales - for historic newspapers;
- www.hec.lrinformation.org.uk - for Lloyds Register;
- www.crewlist.org - for the Mercantile Navy List and appropriation books;
- www.coflein.gov.uk - information on Welsh heritage sites;
- www.fleetwood-trawlers.info - information on Fleetwood trawlers; and
- www.plimsoll.org - Board of Trade Inquiry Report.

No enquiries to the Admiralty Hydrographic office or local archives were made. No Lloyds Register entries for the vessel could be located on line.

Grimsby Archive Office was contacted to establish whether they held any photographs of the ship. They did not hold any but did hold a copy of her registration, which was provided. North Yorkshire County Records Office was contacted as repository for the builder's records, to see whether there any plans of the *Duncan* were available.

Limited printed publications were available to the author that were relevant to the research, however, reference was made to the Shipwreck Index of the British Isles West Coast and Wales (Larn 2000). The vessel is not reported in Shipwrecks of North Wales (Jones 2001) but is included in The Essential Underwater Guide to North Wales (Holden 2003 and 2015)

6.0 Results

HISTORY

Lloyds Register is not available on line for the period when the *Duncan* was in service. The Mercantile Navy List for 1900¹ and 1910² records the following:

- 110945 *Duncan*;
- Port and year of registry: Grimsby, 1900;
- Where built: Beverley;
- When built: 1900;
- Whether iron, wood, steel or composite: Iron;
- Length: 114' 8";
- Breadth: 21' 6";
- Depth of hold: 11' 5";
- Net tonnage: 71;
- Gross tonnage: 261;
- Horsepower of engines and description of propeller: 57. Sc.; and
- Managing owner William Grant, Rugby House, Cleethorpes, Lincolnshire.

The Appropriation books³ show that the vessel was first registered on 9th March 1900.

An enquiry was made to the Grimsby Archive Office, a copy of the vessels registration document was provided which shows the following details:

Registry Document

Official Number:	110945
Name:	<i>Duncan</i>
Gross tonnage under deck:	192.88 tons
Date:	9 th March 1900
Whether a sailing or steam ship, if steam how propelled:	Steam screw
Where built:	Beverley
When built:	1900
Builder:	Cochrane, Beverley
Number of decks:	One
Number of masts:	Two
Rigged:	Ketch
Stern:	Elliptical
Build:	Clencher
Galleries:	None
Head:	None
Framework and description of vessel:	Iron
Number of bulkheads:	Three
Number of water ballast tanks and their capacity in tons:	---
Number of engines:	One set [illegible]
Engines:	Triple expansion
Boilers:	Number: One
Iron or steel:	Steel
Pressure when loaded:	180 lbs
Whether British or Foreign made:	British

¹<https://www.crewlist.org.uk/data/viewimages?regtype=MNL&year=1900&name=DUNCAN&steamsail=Steam&page=756> accessed 28/02/21

²<https://www.crewlist.org.uk/data/viewimages?regtype=MNL&year=1910&name=DUNCAN&steamsail=Steam&page=146> accessed 28/02/21

³ <https://www.crewlist.org.uk/data/appropriation?officialnumber=110945&submit=search> accessed 28/02/21

When made:	Engines: 1900
Name and address of makers:	Boilers: 1900
No of and diameter of cylinders:	Engine: John Cran & Co, Leith
Length of stroke:	Boilers: Eltringham, Shields
NHP:	12", 20" & 32"
IHP:	23"
Speed of ship:	57
Length:	400
Breadth:	10 knots
Depth in hold:	114' 8"
Length of engine room:	21' 6"
	11' 5"
	30' 1"

Ownership

The registration document records the following owners:

- 22nd March 1900 noon 32/64 William Grant and 32/64 Andrew Cochrane⁴ (it appears the owner retained);
- 15th October 1901 32/64 Arthur Bainbridge, appears to have bought out Andrew Cochrane;
- 29th October 1913 Mortgage discharged. Noted that Arthur Bainbridge died in July 1904 and left the vessel to his wife Elizabeth Ann Bainbridge. She married John Sanderson in March 1909 becoming Elizabeth Ann Sanderson, she lived in Stockton on Tees, County Durham; and
- 31st October 1913 Bill of Sale from William Grant (32/64) and Elizabeth Ann Sanderson (32/64) to Harry Eastoe Rees (64/64) of 5 Claremont Villas, Mumbles, Swansea.

The following note on the registry discusses the loss of the *Duncan*:

'Certificate cancelled and Registry closed 14th February 1914. Vessel totally wrecked on St Patrick's Causeway, Cardigan Bay on the 1st February 1914. Advice received from owner.'

Details quoted elsewhere⁵ suggest that she was sold to a C Herron of Swansea but this is not consistent with her registry details.

The Registration document is included in Appendix A.

Builders - Cochrane of Selby

Graces Guide notes that Cochrane and Sons was founded 1884 by Andrew Cochrane in Beverley, East Yorkshire⁶. In 1900 the company moved to Selby. Wooden sailing trawlers initially formed the majority of the builds but these gave way to iron and steel vessels. By 1914 the Company had a long list of orders for trawlers, mainly for the Icelandic grounds. Many of these vessels passed to the Admiralty and were used as naval minesweepers. During the interwar years small craft of all kinds were built, particularly tugs. In the Second World War trawlers of the Dance, Shakespeare and Isles classes were built together with further tugs (Mitchell & Sawyer 1990 pg. 251).

⁴ This suggests that the builder may have been an owner in the first instance.

⁵ https://www.google.com/search?q=cochrane+yard+number+278&client=safari&rls=en&sxsrf=ALeKk00VMRQyQQyKPfaI3HDg70vfAv4vIw:1611008239755&ei=7wgYPnILduT1fAP9_mG8As&start=10&sa=N&ved=2ahUKewi5_PCuwabuAhXbSRU_IHfe8Ab4Q8NMDegQIBxBL&biw=1280&bih=761 accessed 18th Jan 2021

⁶ https://www.gracesguide.co.uk/Cochrane_and_Sons accessed 18th Jan 2021

Cochrane Shipbuilders List notes *Duncan* as Yard Number 278 built by Cochrane and Cooper and launched 16th January 1900. *Duncan* would have been one of the last vessels built at Beverley before the move to Selby, the last Beverley built vessel was the *Rinaldo*, launched in August 1900⁷.

Archive Records

North Yorkshire County Archive holds two plans of the *Duncan*, c. 1900, comprising a rigging plan and general arrangement plan Catalogue reference ZZU 2/5/278/2⁸. She is also reported as Yard Number 278 in their records.

Lloyds Register Information

Lloyds classification survey first entry report includes considerable detail on the construction of the vessel, key details comprise:

- Report date 27th February 1900 at Port of Hull;
- Rig: Ketch;
- Master: John Woods;
- Built at: Beverley;
- Launched: 16th June 1900;
- Built by: Cochrane & Cooper Ltd;
- Owners: W Grant;
- Port belonging to: Grimsby;
- Length on deck: 114.8ft;
- Moulded breadth: 21.6ft; and
- Depth: 11.5ft.

The survey report includes details of the framing, forgings, rudder, keelsons and stringers, bulkheads, plating, riveting, masts & Spars, anchors, Cables, hawsers, warps , boats, pumps and windlass. The report concludes that:

'the workmanship throughout is good. This vessel is built in accordance with the approved midship section forwarded to London on 27th Feb 1900, the accompanying longitudinal plan, the Secretary's letter referred to above, and in general conformity with the Rule for the Class contemplated'.

She was classed as 100A1. A copy of the survey report is included in Appendix B. The profile plan is shown below as Figure 6.1 with the midships section shown in Figure 6.2. Larger copies are included in Appendix C.

⁷ <https://www.eastridingmuseums.co.uk/EasySiteWeb/EasySite/StyleData/culture/downloads/museums/past-exhibits/beverley-guildhall/trawling-through-time.pdf> accessed 18th Jan 2021

⁸ <https://archivesunlocked.northyorks.gov.uk/CalmView/Overview.aspx?src=CalmView.Catalog> accessed 18th Jan 2021

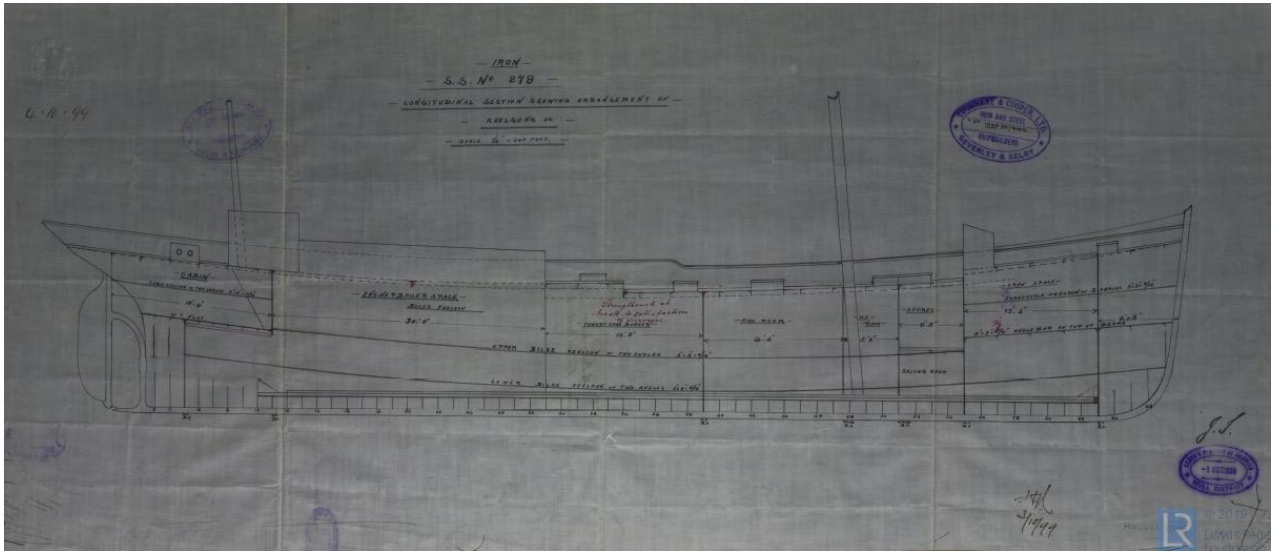


Figure 6.1 Profile Plan (Source: Lloyds Register)

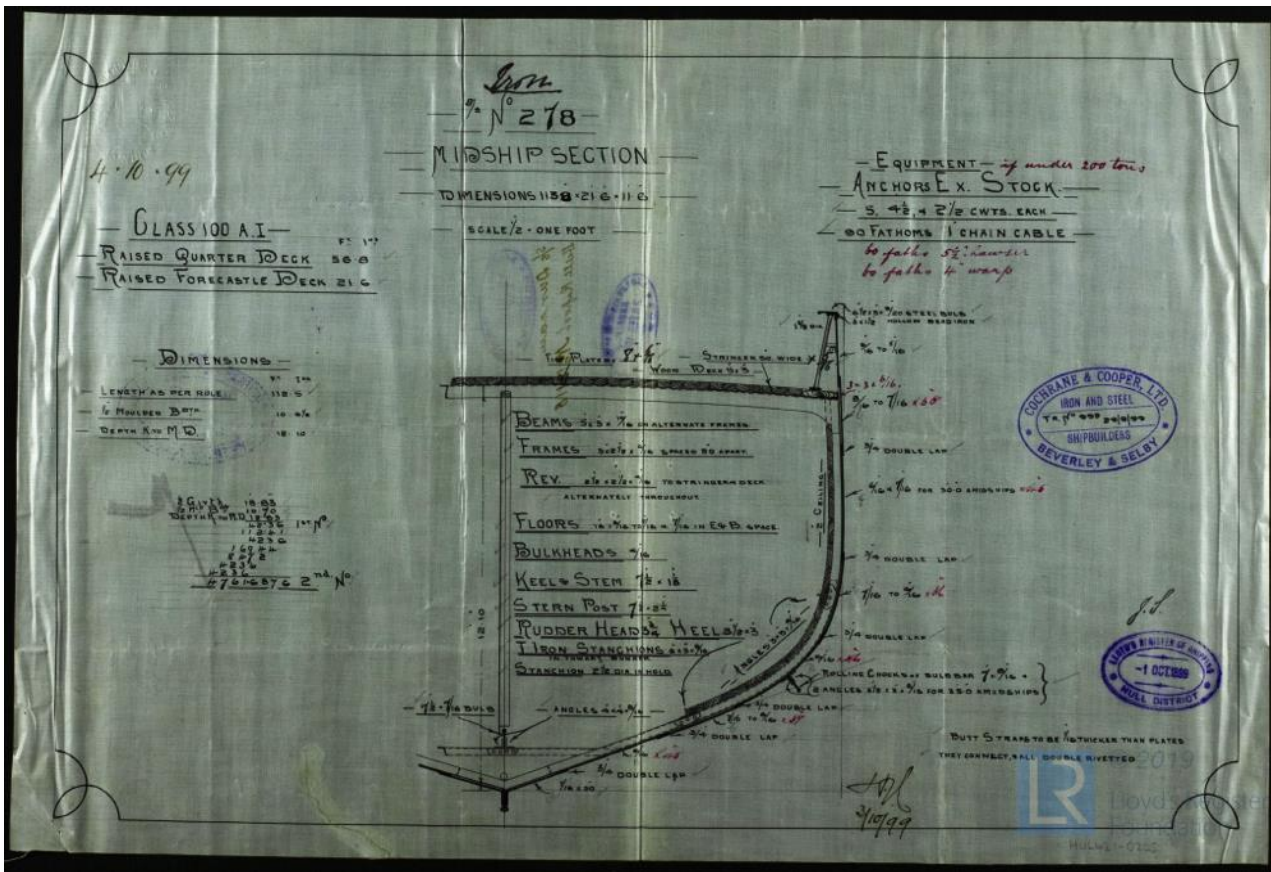


Figure 6.2 Midships section (Source: Lloyds Register)

The Lloyds Report on Machinery notes that the survey was held at South Shields on Boiler No 1183 dated 3rd March 1900. The report notes that the boiler was built by Jas T Eltringham of South Shields in 1899. The report includes detail on the construction of the boiler. A plan of the boiler has also been located, and is shown in Figure 6.3 below. A larger copy is included in Appendix C. A copy of the Report on Machinery is included in Appendix D.

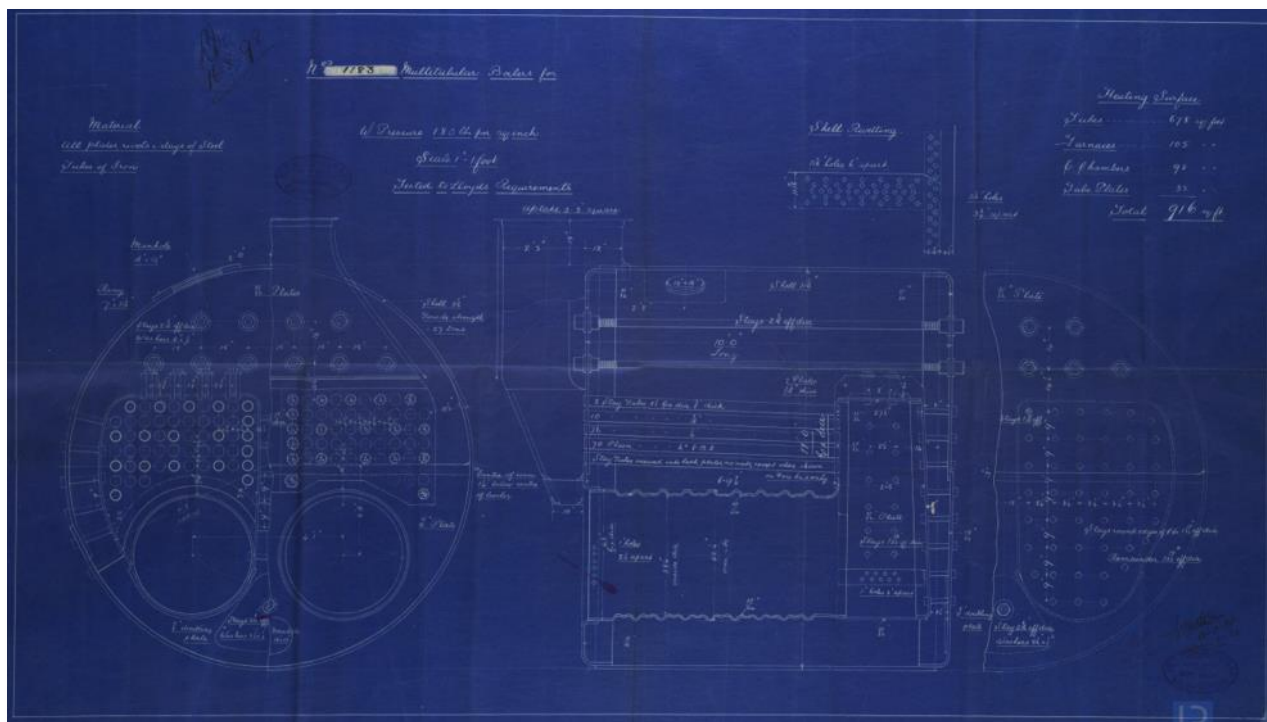


Figure 6.3 Boiler (Source: Lloyds Register)

The Report on Machinery notes the following key features for the engines:

- Triple expansion;
- Three cylinders;
- Three cranks;
- Cylinders 12"–21"–32" diameter;
- Length of stroke 23";
- Revs per minute 110;
- Diameter of screw: 8' 4";
- Number of blades: Four; and
- No donkey boiler.

SERVICE

The *Duncan* was registered at Grimsby with the fishing number GY1148⁹. By 1913 she was fishing from Fleetwood¹⁰ and was reported to have made several trips from that port, the skipper George Cooke is reported as living at 100 Promenade Road and she was managed by Messrs Morley and Price¹¹.

The life of the *Duncan* appears to have been typical for a steam trawler of her time; the following events were located in contemporary newspapers by searching for her name:

- 1902 - *Duncan* came back into dock with the dead body of her chief engineer, Fred Hill, aboard. Hill, who was well known amongst engineers, was having his tea with the skipper, when he fell forward and expired. The vessel was some 120 miles off Spurn Head at the time, and immediately the trawl was got up and course shaped for Grimsby. Hill was a married man, aged 55, living in Harrington Street. He had missed a trip or two through illness¹²;

⁹ <http://www.fleetwood-trawlers.info/index.php/2008/12/st-Duncan-gy1148/> accessed 28/02/21

¹⁰ <http://www.fleetwood-trawlers.info/index.php/2008/12/st-Duncan-gy1148/> Accessed 15.07.20

¹¹ Fleetwood Chronicle 6th February 1914

¹² Daily Mail 30th January 1902

- 1903 - towed by the North Shields trawler *Tyne Monarch* from the North Sea, with her tail end shaft broken¹³;
- 1904 - the death by accident at sea of one of the crew, a trimmer, named Thomas Lawler, aged 45, a native of York¹⁴;
- 1906 - Matthias Brown, a fisherman, at Grimsby, charged with refusing to sail in the trawler *Duncan*. As the trawler was about to leave the dock, the prisoner jumped on the quay and refused to sail, complaining the vessel was leaky. It was admitted that there was a small leak forward, but Brown alleged that there were eighteen inches of water in the trawler and that it had taken an hour and forty minutes to pump her dry during the last voyage. The Stipendiary said that as the engineer had admitted complaints had been made regarding the leak he certainly should not convict and Brown was discharged¹⁵;
- 1909 - the *Duncan* returned to Grimsby with her boiler disabled¹⁶; and
- 1910 - she returned to port (Grimsby) having lost her rudder, steering with one of the trawl boards¹⁷.

In November 1913 a newspaper article¹⁸ noted that the *SS Duncan*, a boat of 216 tons register, formerly belonging to Mr. W. Grant, Grimsby, had been purchased by Messrs. Rees and Bartes, fish merchants, Swansea, at a cost of about £3,000.

On December 4th 1913 she ran on the sand bar at Wyre Light, Fleetwood and was under repair for about six weeks. Newspaper articles note that this was her first trip out of Fleetwood, which does not seem consistent with reports in the same article stating that she had made several trips from the port¹⁹. She sustained damage that needed the renewal of the stern frame, rudderpost, tail end shaft, propeller and wheel chains. It was on the voyage immediately after this that she was lost. It appears that her voyage was intended to end at Swansea, allowing her to be repositioned to her new home port.

The Maritime History Archive at the Memorial University of Newfoundland²⁰ holds the crew list for 1914²¹, however, no copy has been obtained for this report.

LOSS

The *Duncan* ran onto St Patrick's Causeway on 1st February 1914 at about 3.15 to 3.30 pm. The Causeway was reported to have been so deeply submerged that there were no breakers. The crew used the engines to try and work her free but her hull began to leak and the pumps were unable to keep up. After nightfall the crew made distress signals by burning tarred nets soaked in paraffin, and by hoisting red lights, but no assistance came. The vessel was not equipped with flares. At 9 pm with the trawler reported to be breaking up badly the crew took to the boats, they reached Pwllheli about half past three the following morning (2nd February 1914) after six hours of hard rowing in stormy seas. No lives were lost²².

Further information was given in an interview with the skipper²³ which noted that during the whole of the voyage they had experienced strong south westerly winds and heavy seas, whilst changing grounds in a thick mist and heavy seas the ship had run onto the Causeway. Flares made of new nettings soaked in paraffin was all they could keep alight in the strong winds and they were continuously burned, but no help came. When the vessel had almost filled with water,

¹³ Daily Mail 23rd July 1903

¹⁴ Yorkshire Evening Post 10th October 1904

¹⁵ Northern Daily Mail 17th February 1906

¹⁶ The Northern Whig 28th May 1909

¹⁷ Shipping Gazette and Lloyds List 18th February 1910

¹⁸ Cambria Daily Leader 7th November 1913

¹⁹ Fleetwood Chronicle 6th February 1914

²⁰ https://www.mun.ca/mha/holdings/viewcombinedcrews.php?Official_No=110945

²¹ Probably for the voyage on which she was lost, as it was the only trip she made in 1914

²² [https://southampton.spydus.co.uk/cgi-bin/spydus.exe/ENQ/WPAC/BIBENQ/2702817?QRY=CTIBIB%3C%20IRN\(26599953\)&QRYTEXT=Wreck%20Report%20for%20%27Duncan%27%2C%201914](https://southampton.spydus.co.uk/cgi-bin/spydus.exe/ENQ/WPAC/BIBENQ/2702817?QRY=CTIBIB%3C%20IRN(26599953)&QRYTEXT=Wreck%20Report%20for%20%27Duncan%27%2C%201914) Accessed 15.07.20

²³ Fleetwood Chronicle 6th February 1914

at 9.30pm, the boat was launched but little headway was made and on many occasions they were in danger of being swamped. The boat sprang a leak and two of the crew had to be employed continuously to bail it out. About 3.30am the following morning they reached Pwllheli but it was pitch dark and all of the men were soaked. Searching around they found a blacksmiths shop in a granite works where they were able to light a fire and dry out their clothes, at dawn they proceeded into the town. Representatives of the Shipwrecked Mariners Society gave them food and they took the train home to Fleetwood at 11am, arriving at 6.37pm and being given 'a hearty welcome by their relatives and a large crowd who had assembled to witness their arrival'. The article also included the information that Mr Rees, the Manager, had left Fleetwood to see whether the vessel could be salvaged and that the wreck 'lies in about eleven feet of water and her back is believed to be broken'.

BOARD OF TRADE INQUIRY

A Board of Trade Inquiry into the loss of the *Duncan* was held at Liverpool in April 1914²⁴. A transcript of the report of the inquiry is included as Appendix E. The Court concluded that the vessel had been lost due to the fact that she was navigated after noon on that day at too great a rate of speed from and uncertain position without proper recourse being had to the lead and without a proper lookout being kept, this was by the wrongful act and default of the skipper, Mr George Cooke and his licence was suspended for 4 months. However, the Court did recommend that that he be granted a second hand's certificate in the meantime.

Newspaper reports indicate that the skipper ascribed it entirely to faulty compasses, and stated that if the compass adjuster had told him that the compasses were untrustworthy he would not have made the voyage.

The Inquiry was held in the Magistrates' Room Dale Street, in the City of Liverpool, between the 31st of March and the 3rd of April 1914. A Mr. Paxton represented the Board of Trade, a Mr Ernest Kammerer of Llanelly watched the case on behalf of the owners and the Skipper, Mr. George Cooke, appeared in person and was not represented by a solicitor or counsel. The Inquiry report includes the details of the vessel, which are consistent with those that have been found as part of preparing this report.

The report notes that the vessel had two compasses, one on the bridge in front of the wheel, by which bearings were taken, and courses set and steered, and one overhead in the wheelhouse. The report states she was supplied with a Walker's patent Cherub log, leads and lines and the necessary charts. The compasses were considered to be in good order and sufficient for the safe navigation of the vessel.

The *Duncan* carried one boat with life buoys and lifejackets, but no distress signals. The Inquiry recorded that she was owned by a Mr. Harry Eastol Rees, of 5 Claremount villas, Mumbles, Swansea, who was also her managing owner. This is consistent with the Registry documents.

Given the damage the *Duncan* had suffered in late 1913 the owner decided that the vessel should be swung to allow her compasses to be adjusted before she left for the fishing grounds. A Mr. Basil Charles Cousens, compass adjuster at Fleetwood, was appointed.

At 10 a.m. of 24th January 1914 the *Duncan* left Fleetwood, bound for the Cardigan Bay fishing grounds. The report of the Inquiry notes that she had a maximum draught of 13 feet and was manned by nine hands commanded by George Cooke (certificate of competency No. 1720). The report notes that Cooke's name had been on the ship's register since the 10th November 1913.

²⁴[https://southampton.spydus.co.uk/cgi-bin/spydus.exe/ENQ/WPAC/BIBENQ/2702817?ORY=CTIBIB%3C%20IRN\(26599953\)&ORYTEXT=Wreck%20Report%20for%20%27Duncan%27%2C%201914](https://southampton.spydus.co.uk/cgi-bin/spydus.exe/ENQ/WPAC/BIBENQ/2702817?ORY=CTIBIB%3C%20IRN(26599953)&ORYTEXT=Wreck%20Report%20for%20%27Duncan%27%2C%201914) Accessed 15.07.20

When the *Duncan* sailed Cousens was on board with a view to adjusting the compasses off the Lune Deep. The weather at the Deep was described as hazy and thick and the landmarks generally used for swinging the compass were obscured but partly by the alignment of the channel, and partly by observation of the sun, Cousens was reported to have been satisfied that both compasses were correct on the north and south points, and the overhead compass correct on east. However, the report also notes that it was not possible to make observations on any other compass points. The report points to a conflict of evidence with regard to a conversation between Cousens and the skipper. According to Cousens he was willing to stay on board for longer in case the weather cleared, he stated that it would have been in his interest to do so as he was only paid when his work was completed. However, the skipper, who was said to be anxious to get to sea, expressed the opinion that the weather was getting worse and suggested that Cousens should go ashore as no further observations would be possible on that day. The skipper stated that he understood Cousens to have said that the compasses were 'not much out and that he thought they would be all right' although this was not Cousens' recollection. Cousens left the vessel about 1 pm and she proceeded to sea. The Court did not reconcile this difference, it accepted the skipper's evidence as his understanding of the conversation, but at the same time it attached no blame to Cousens.

The *Duncan* fished off New Quay and elsewhere in Cardigan Bay and went over to Lundy Island and back. At 4.30 p.m. on the 31st January Stumble Head bore south east, distant 1½ to 2 miles. The vessel then steamed north east for an estimated distance of 12 miles, and a cast of the lead was taken in 27 fathoms which found sand and shells. After that the course was altered to north by east for about half an hour, a distance of about 4 miles, and then at 7 pm having obtained a sounding of about 27 fathoms, the trawl was shot.

The craft now fished to the south south east²⁵ at about 2½ to 3 knots per hour. About 10.30 pm the trawl was lifted and then until midnight the engines were stopped, at midnight a further sounding showed 30 fathoms with stones and the gear was shot again and towed westward until 2 am on the 1st February. At this time a sounding of 36 fathoms was reported and the trawl was recovered again, with the operation completed by about 2.30 am. The distance sailed between midnight and 2 am was reported to be about 6 miles. By this time there was a strong south westerly breeze and a heavy sea, the ship laid to until 9 am when a sounding of 30 fathoms was recorded. The wind was then south west by west to west but owing to the strength of the breeze and the height of the sea only some 7 nm were covered by noon.

At 12 o'clock, a sounding of 30 fathoms with sand and shell was recorded and the skipper marked position of the *Duncan* on the chart at latitude 52° 14'N, longitude 4° 55'W.

From this assumed position a north east course was made heading for 'Penkylan Head'²⁶, to fish in the deep water south of the point near the Devil's Tail. Both the skipper and the boatswain were on the bridge for a short time but they then left the ship in the charge of two deckhands while the other members of the crew repaired the nets. The weather was reported to be hazy with the vessel making an estimated speed of 8 knots, based on the engine revolutions of 100 to 102 per minute. It was noted that the log was not being used.

As recorded above in the section on her loss about 3.15 pm the ship suddenly struck on St Patrick's Causeway. The engines were worked but the vessel remained fast and she started to leak. After nightfall tarred nets were burnt and red lights were hoisted but no assistance came

²⁵ The report states 'SS Eastward'. It is assumed that this means to the south south eastward.

²⁶ Penkillan Head is not shown on the OS maps or Admiralty charts but is noted to be the same as Trwyn Cilan at approximately 52° 46.7'N 004° 31.8'W. The Devil's Tail is shown on Chart 1971 in the area around 52° 38'N 004° 42.5'W about 17 nm south of Aberdaron. Source British Islands Pilot Vol II 1924 Hydrographic Office US Navy https://books.google.co.uk/books?id=d0NAQAAMAAJ&pg=PA323&lpg=PA323&dq=trwyn+cilan+penkylan&source=bl&ots=MQ9vS4ALy3&sig=ACfU3U1NA_rnPBq_Y2HqD1lzpQRJxXkeg&hl=en&sa=X&ved=2ahUKewjxva2y-ozvAhULXMAKHZjicEMQ6AEwD3oECAkQAw#v=onepage&q=trwyn%20cilan%20penkylan&f=false accessed 28/02/21

and at 9 pm with the vessel gradually breaking up and the water nearly up to the top of the cylinders in the engine room, the abandoned the *Duncan* which became a total wreck.

Although not discussed in the Inquiry report it was noted in a newspaper article that the crew did not hear the bell of the Causeway buoy or see the light. Fleetwood captains who were in the vicinity about that time had reported that the light was not burning because the gas had given out²⁷.

A timeline for the SS *Duncan* is included as Appendix F.

Wrecksite - Possible *Duncan*

Holden (2015 pg. 34) has speculated that the wreck located at 52° 42.278N 004° 19.660W may be the *Duncan*. Holden notes that this is the site of a drying wreck about 10 miles west of Barmouth and 9 miles south east of Abersoch. The remains are of a steam driven vessel, at low water springs a boiler dries out. There are also the remains of a triple expansion engine but no other remains of the hull and fittings are thought to be present, although other debris has been reported about a quarter of a mile to the west north west and more wreckage to the east north east. The wreck has been salvaged with the condenser, steam valves and some of the bearing caps removed. From the author's experience of diving the site the boiler is of approximately the same dimensions as those shown on the plans, supporting the fact that this could be the wreck of the *Duncan*. The images below show the wreck site.



Figure 6.4 Boiler circa 2000 (Source: C Holden/R Waugh)

²⁷ Fleetwood Chronicle 3rd April 1914



Figure 6.5 Seal on boiler at low tide (Source: C Holden)



Figure 6.6 Plate close to boiler (Source: C. Holden)



Figure 6.7 Boiler tubes (Source: C. Holden)



Figure 6.8 Boiler tubes (Source: C. Holden)



Figure 6.9 Crankshaft and brass fitting (Source: C Holden)



Figure 6.10 Crankshaft web (Source: C. Holden)



Figure 6.11 Probable brass condenser tube 240 cm x 2 cm (Source: C Holden)

7.0 Analysis

The research has established the outline of the history of the *Duncan* although this appears to be one typical for a steam trawler of the time. The vessel was built by Cochranes and was one of the last ships to come from their yard in Beverley, before the company moved to Selby. Information on the construction of the vessel was obtained from the Lloyds register survey reports for the hull and machinery and also plans of the vessel and her boiler available on line. These proved to be a valuable resource. The Lloyds Register entries for the period when the *Duncan* was in service could not be located on line, there does not currently appear to be a source on line of registers for the period 1900 to 1930. However, the ships registration documents were located in the Grimsby Archives and photographs of them were obtained, these provided extensive details of the construction of the ship and the history of her ownership. It was not possible to find a photograph of the *Duncan* on line and enquiries with the Grimsby and North Yorkshire archives failed to reveal one, however, they did show that the North Yorkshire Archive also holds plans for the ship.

Contemporary newspaper articles showed events in the life of the *Duncan* including the loss of crew members and damage to the vessel.

A key document located on line was the Court of Inquiry report for her loss. This was located on the website of Southampton Library and is one of a number of reports held by them. This provided what is considered to be a robust source of information on her loss. Some additional information was gleaned from contemporary newspaper sources, the ability to search on line for terms such as the ships name (on websites such as that of the Welsh National Library and British Newspaper Archive) was helpful.

Because she had sailed from Fleetwood the *Duncan* is included on the Fleetwood Trawlers website, which provided the same information as that included in her registration document. No similar website for Grimsby trawlers could be located, this might have given more information on her life whilst fishing from that port.

Holden (2003 & 2015) has published a series of dive guides covering the Welsh coast from Barmouth to the Great Orme. In the author's experience these are well researched and accurate, Holden (2015 pg.34) speculates that the wreck located at 52° 42.278N 004° 19.660W may be the *Duncan*. The most significant remains at the site are a boiler and the discovery of the plans of the boiler could now allow the identification to be confirmed, however, it should be noted that a newspaper article from 1909 reported the *Duncan* returning to port with her boiler disabled. Although it seems unlikely given the vessel was less than ten years old, if this were significant damage it could mean her boiler was replaced.

8.0 Conclusions & Recommendations

The research met the objectives of establishing the broad outlines of history of the *Duncan*. It also provided information that could allow the location of the wreck to be confirmed.

The report of the Inquiry into her loss was located; it concluded that the vessel was lost because she was navigated after noon on the 1st February 1914 at 'too great a rate of speed and from an uncertain position, without proper recourse to the lead and without a proper lookout being kept'. The skipper had his certificate suspended for four months.

A location for the wreck on St Patrick's Causeway has been reported but it has not been possible to date to confirm whether this is correct. The remains include a ships boiler and other scattered remains; the discovery of the plans of the boiler of the *Duncan* may enable a positive identity to be made. This assumes that the boiler was not replaced, given the ship was only 14 years old at the time of her loss this is considered to be unlikely but a newspaper report of 1909 does note her returning to port with her boiler disabled so this cannot be completely discounted.

In terms of further research and investigation the following could be undertaken:

- Compare the plans of the boiler with the features on the wreck site and attempt to confirm whether they are the same;
- Obtain a set of the plans from the North Yorkshire archive, these may be more detailed than the profile held by Lloyds Register;
- Search the area around the wreck site to see if any further remains can be found, these could be compared with the Lloyds Register survey reports and/or plans to see if further matches can be established;
- Undertake further archival research to see if a photograph of the *Duncan* can be found; and
- Produce a site plan and photographic record for the boiler and associated wreckage and any further wreckage that can be located.

9.0 References

Jones, I.W., 2001, Shipwrecks of North Wales 4th Edition, Landmark Publishing Ltd

Holden C., 2003, The Essential Underwater Guide to North Wales, Calgo Publications

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Larn, R. & Larn, B., 2000, Shipwreck Index of the British Isles West Cost and Wales Lloyds Register of Shipping

Mitchell, W.H. and Sawyer, L.A., 1990, The Empire Ships Second Edition, Lloyds of London Press Ltd

For website references please refer to footnotes.

Appendices:

Appendix A – Registration documents for *SS Duncan*

Source: Grimsby Archives

107 *B*
P
T
B

Official Number of SHIP *110945*

Number, Year, and Port of Registry: *1900 - Grimsby*

British or Foreign built: *British*

PARTICULARS OF TONNAGE.

GROSS TONNAGE.		No. of Tons.	DEDUCTIONS ALLOWED.	
Under Tonnage Deck		<i>492.88</i>	On account of Space required for Propelling Power -	
Closed in Spaces above the Tonnage Deck (if any)			On account of Spaces occupied by Seamen or Apprentices, and appropriated to their use, and kept free from Goods or Stores of every kind, not being the personal property of the Crew	
Spaces or Spaces between Decks			These spaces are the following, viz.:-	
Deck		<i>10.93</i>	<i>Forecastle & Cabin - 17.14</i>	
Overcastles		<i>3.09</i>		
Other Closed-in Spaces (if any), as follows:-		<i>0.58</i>		
Spaces for Machinery, Light and Air, s. 78 (2) Merchant Shipping Act, 1894		<i>8.78</i>	Deductions under s. 79, Act of 1894, as follows:-	
Gross Tonnage		<i>516.23</i>	<i>Master's Room - 2.04</i>	
Deductions, as per Contra		<i>14.523</i>	<i>Boatman's stool 3.50</i>	
Registered Tonnage		<i>71. -</i>	TOTAL DEDUCTIONS <i>24.14</i>	
			Cubic Metres <i>411. -</i>	

Net Tonnage: *216.75*
129.13
87.10

Net Tonnage: *411.98*
25.44
246.49

Total Deductions: *116.93*
129.13

Name, Residence, and Description of the Owners, and Number of Sixty-four Shares held by each Owner:

William Grant of Great Grimsby, County of Lincoln
Steam Fishing Vessel Owner -
Andrew Cochran of Beverley, County of York, Shipbuilder

Dated *9th Dec 1900*

Col. 1.	Col. 2.	Col. 3.	Col. 4.	Col. 5.	Col. 6.	Col. 7.	Col. 8.
Number of Transactions	Letter denoting Mortgage and Certificates of Mortgage	Name of Person from whom Title is derived.	Number of Shares affected.	Date of Registry.	Nature and Date of Transaction.	Name, Residence, and Occupation of Transferee, Mortgagee, or other Person acquiring Title or Power.	Number and Account of subsequent Transactions, showing how interest disposed of.
<i>1</i>	<i>A</i>	<i>William Grant</i>	<i>32</i>	<i>22nd Feb 1900</i>	<i>Mortgage dated 14th March 1900 for sum of £1000 on account current and interest</i>	<i>The York City and County Banking Company Limited City of York</i>	<i>1</i>
<i>2</i>	<i>B</i>	<i>Andrew Cochran</i>	<i>32</i>	<i>1st Nov</i>	<i>Mortgage dated 21st March 1900 for sum of £1000 on account current and interest</i>	<i>The York City and County Banking Company Limited City of York</i>	<i>2</i>
<i>3</i>		<i>Andrew Cochran</i>	<i>32</i>	<i>14th Aug 1901</i>	<i>Bill of sale dated 8th Aug 1901</i>	<i>Arthur Bainbridge 55 York Street on the County of Lincoln from Andrew Cochran</i>	<i>2-3</i>
<i>4</i>	<i>B</i>	<i>The York City and County Banking Company Limited</i>	<i>32</i>	<i>4th Oct 1901</i>	<i>Discharge of Mortgage - Receipt dated 3rd Oct 1901</i>	<i>J.P. Dunlop Rec.</i>	<i>3</i>
<i>5</i>	<i>A</i>	<i>The York City and County Banking Company Limited</i>	<i>32</i>	<i>12th Oct 1901</i>	<i>Discharge of Mortgage - Receipt dated 11th Oct 1901</i>	<i>J.P. Dunlop Rec.</i>	<i>3</i>
<i>6</i>	<i>C</i>	<i>Arthur Bainbridge</i>	<i>32</i>	<i>15th Oct 1901</i>	<i>Mortgage dated 14th Oct 1901 for sum of £1000 on account current and interest</i>	<i>The York City and County Banking Company Limited City of York</i>	<i>3-6</i>
<i>7</i>	<i>C</i>	<i>The York City and County Banking Company Limited in liquidation</i>	<i>32</i>	<i>28th Oct 1903</i>	<i>Discharge of Mortgage C. Receipt dated 24th October 1903</i>	<i>J.P. Dunlop Rec.</i>	<i>7</i>
<i>8</i>		<i>Arthur Bainbridge</i>	<i>32</i>	<i>29th October 1903</i>	<i>Bill dated 25th July 1904. Bill dated 14th July 1904. Bond 14th November 1904 in the District Registry of the Probate Division of the High Court of Justice. Dismally Elizabeth Ann Bainbridge sole executrix. Deceased Elizabeth Ann Bainbridge married 19th March 1904 to John Anderson. Marriage certificate dated 15th March 1904 produced.</i>	<i>Elizabeth Ann Anderson of "Limerick" Stockton-on-Tees, in the County of Durham, wife of John Anderson.</i>	<i>8</i>
<i>9</i>		<i>Elizabeth Ann Anderson</i>	<i>32</i>		<i>Bill of sale dated 30th October 1903.</i>	<i>Harry Easter Rec of 5th Avenue, Wilton, Lincolnshire, in the County of Lincoln, 7th Merchant.</i>	<i>9</i>
<i>10</i>		<i>William Grant</i>	<i>32</i>	<i>31st October 1903</i>	<i>Bill of sale dated 30th October 1903.</i>	<i>The London and Provincial Bank Limited of London.</i>	<i>10</i>
<i>11</i>	<i>D</i>	<i>Harry Easter Rec</i>	<i>64</i>	<i>11th Nov</i>	<i>Mortgage dated 31st October 1903 to secure Account Current and Interest.</i>	<i>The London and Provincial Bank Limited of London.</i>	<i>11</i>

NAME OF SHIP *Duncan* *Class 1914*

Whether a Sailing or Steam Ship, if Steam how propelled.	<i>Steam Towed</i>	Where built	<i>Rosslary</i>	When built	<i>1900</i>	Name and Address of Builder	<i>Coobrun's Slapins Rosslary</i>
Number of Decks	<i>one</i>	Length from forepart of stem under the keelson, to the aft side of the head of the stern post		<i>114</i>	<i>8</i>		
Number of Masts	<i>3</i>	Length at quarter of depth from top of weather deck at side amidships to bottom of keel		<i>21</i>	<i>6</i>		
Rigged	<i>Sloop</i>	Main foremast to outside of pluck		<i>11</i>	<i>5</i>		
Build	<i>clipper</i>	Depth in hold from ironing deck to ceiling at midships					
Galleries	<i>none</i>	Depth in hold from upper deck to ceiling at midships, in the case of three decks and upwards					
Head	<i>square</i>	Depth from top of beam amidships to top of keel					
Framework and description of Vessel	<i>iron</i>	Depth from top of deck at side amidships to bottom of keel					
Number of Bulkheads	<i>three</i>	Rout of beam					
Number of water ballast tanks and their capacity in tons		Length of engine (if any)					
						<i>30</i> <i>1</i>	

PARTICULARS OF DISPLACEMENT.

Total to quarter the depth from weather deck at side amidships to bottom of keel		tons		Ditto per inch immersion at same depth		tons	
No. of Engines	Description	Whether British or Foreign made	When made	Name and Address of Makers	No. and Diameter of Cylinders	Length of Stroke	H.P. or Rated H.P.
<i>one</i>	<i>triple expansion</i>	<i>British</i>	<i>1900</i>	<i>John Brown & Co., Leith</i>	<i>12</i>	<i>23</i>	<i>57</i>
<i>three</i>	<i>Boilers</i>	<i>do</i>	<i>1900</i>	<i>Eltringham - Midco</i>	<i>20</i>	<i>23</i>	<i>1400</i>
	Kind of Iron or Steel						
	Pressure when made						
	<i>180 lbs</i>						<i>10 knots</i>

William Grant of Rugby House, (deceased) designator & manager of shares. Appointed when his share received 9th Feb 1914

32 shares
32
64

(Signed) *W. Grant* Registrar.

SUMMARY.					Col. 14																					
Col. 9.	Col. 10.	Col. 11.	Col. 12.	Col. 13.		REMARKS.																				
Number of Transaction under which Title acquired	Names of Owners.	Mortgages and Certificates of Mortgage.	Names of Mortgagees or Attorneys under Certificates of Mortgage.	Numbers of Transactions.																						
				<table border="1" style="width: 100%; text-align: center;"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>			1	2	3	4	5	6	7	8	9	10										
				1	2		3	4	5	6	7	8	9	10												
<table border="1" style="width: 100%; text-align: center;"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>		1	2	3	4	5	6	7	8	9	10															
1	2	3	4	5	6	7	8	9	10																	
Numbers of Shares Issued.																										
1	<i>W. Grant</i>	<i>W. Grant</i>	<i>The York City and County Bank</i>	<i>32</i>		<i>Harry E. Ross</i> <i>5 Cabot Street, Warrington</i> <i>31. Dec 1913</i> <i>W. Grant</i>																				
2	<i>A. Bainbridge</i>	<i>do</i>	<i>do</i>	<i>32</i>																						
				<i>64</i>																						
1	<i>W. Grant</i>	<i>W. Grant</i>	<i>The York City and County Bank</i>	<i>32</i>																						
2, 3	<i>A. Bainbridge</i>	<i>do</i>	<i>do</i>	<i>32</i>																						
				<i>64</i>																						
1	<i>W. Grant</i>	<i>W. Grant</i>	<i>The York City and County Bank</i>	<i>32</i>																						
3	<i>A. Bainbridge</i>	<i>do</i>	<i>do</i>	<i>32</i>																						
				<i>64</i>																						
	<i>W. Grant</i>	<i>do</i>	<i>do</i>	<i>32</i>																						
3	<i>A. Bainbridge</i>	<i>do</i>	<i>do</i>	<i>32</i>																						
				<i>64</i>																						
3, 6	<i>W. Grant</i>	<i>W. Grant</i>	<i>The York City and County Bank</i>	<i>32</i>																						
				<i>32</i>																						
				<i>64</i>																						
orig.	<i>W. Grant</i>	<i>do</i>	<i>do</i>	<i>32</i>																						
3	<i>E. Henderson</i>	<i>do</i>	<i>do</i>	<i>32</i>																						
				<i>64</i>																						
9/11	<i>H. E. Ross</i>	<i>Mortg. D. for A/c Current + Interest</i>	<i>The London and Provincial Bank Ltd</i>																							

certificates cancelled and Registry closed 14th February 1914
vessel totally wrecked on St. Patrick's Causeway
Cardigan Bay, on the 1st February 1914
Advice received from owner.

APPENDIX B LLOYDS CLASSIFICATION SURVEY REPORT

Source: Lloyds Register Heritage Education Centre

APPENDIX C SHIP AND BOILER PLANS

Source: Lloyds Register Heritage Education Centre

APPENDIX D LLOYDS REPORT ON MACHINERY

Source: Lloyds Register Heritage Education Centre

4.

No. 9315
Hul 1318

REPORT ON MACHINERY.

Port of *Leith*

SAI, MAR 3 1900

Survey held at *Leith* Date, first Survey *19th Jan 1899* Last Survey *18th Feb 1900*
 Book _____ (Number of times *34*)
 Ship on the *S. S. Suman* Tonnage *216*
 No. *71*
 Built at *Bessley* By whom built *Lochana & Cooper* When built *1900*
 Where made at *Leith* By whom made *John Lean & Co* when made *1900*
 Where made at *S. Shields* By whom made *J. J. Coltingham & Co* when made *1900*
 Rated Horse Power *57* Owners *William Grant* Part belonging to *private*
 Is there a Pump on per. Section *57* Is Refrigerating Machinery fitted *no* Is Electric Light fitted *not*

GINES, & Co.—Description of Engines *Triple expansion* No. of Cylinders *3* No. of Cranks *3*
 No. of Cylinders *12-21-32* Length of Stroke *23* Revs. per minute *110* Dia. of Screw shaft *as per rule 6 1/4* Lgh. of screw shaft *30*
 Dia. of Turret shaft *as per rule 6 1/4* Dia. of Crank shaft journals *as per rule 6 3/4* Dia. of Crank pin *6 3/4* Size of Crank webs *12 1/2 x 5* Dia. of thrust shaft under
 area *6 3/4* Dia. of screw *8 1/4* Pitch of screw *11 1/2* No. of Males *4* State whether accessible *no* Total surface *266*
 No. of Feed pumps *1* Diameter of dills *2 3/4* Stroke *11 1/2* Can one be overhauled while the other is at work *✓*
 No. of Bilge pumps *1* Diameter of dills *2 3/4* Stroke *11 1/2* Can one be overhauled while the other is at work *✓*
 No. of Donkey Engines *1* Sizes of Pumps *5 1/2 x 3 x 6* No. and size of Sections connected to both Bilge and Donkey pumps
 Engine Room *one 2' x 2 1/2' x 2 1/2'* In Hold *one 2'*

No. of bilge suction pipes *1* size *3 1/2* Connected to condenser, or to circulating pump *yes* Is a separate donkey suction fitted in Engine room if size *yes 2'*
 Are all the bilge suction pipes fitted with valves *yes* Are the valves in Engine room always accessible *yes* Are the slates on Engine room bulkheads always accessible *no*
 Are all connections with the sea direct on the skin of the ship *yes* Are they Valves or Cocks *both*
 Do they float sufficiently high on the ship's side to be open without lifting the stopcock plates *yes* Are the discharge pipes above or below the deep water line *above*
 Are they each fitted with a discharge valve always accessible on the plating of the vessel *yes* Are the blow off cocks fitted with a spigot and brass covering plate *yes*
 Are the pipes carried through the holders *hold fastening* How are they protected *wood casing*
 Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times *yes*
 Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilge *yes*
 Are there stern tube, propeller, screw shaft, and all connections examined in dry dock *3/2/00* Is the screw shaft tunnel watertight *no*
 Is it fitted with a watertight door *✓* worked from *✓*

MILERS, & Co.— (Letter for record) Total Heating Surface of Boilers *in journal draft fitted*
 No. and Description of Boilers Working Pressure Tested by hydraulic pressure is
 No. of feet Can each boiler be worked separately Area of fire grate in each boiler No. and Description of safety valves in
 each boiler Area of each valve Pressure to which they are adjusted Are they fitted with easing gear
 smallest distance between boilers or uptakes and tankers or woodwork Mean dia. of boilers Length Material of shell plates
 thickness Range of tensile strength Are they welded or flanged Descrip. of riveting: cir. means long. means
 diameter of rivet holes in long. means Pitch of rivets Lap of plates or width of butt straps
 No. of stays of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell
 rivets
 No. of compensating rings No. and Description of Furnaces in each boiler Material Outside diameter
 length of plain part top bottom Thickness of plates rivets Description of longitudinal joint No. of strengthening rings
 Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom
 Pitch of stays to dills: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules
 Material of stays Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space
 Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays
 Diameter at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom
 thickness Material of Lower back plates Thickness Greatest pitch of stays Working pressure of plate by rules
 Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays
 Pitch across wide water space Working pressure by rules Girders to Chamber tops: Material Depth and
 thickness of girder at centre Length as per rule Distance apart Number and pitch of Stays in each
 Working pressure by rules Superheater or Steam chest: how connected to boiler Can the superheater be shut off and the boiler worked
 separately Diameter Length Thickness of shell plates Material Description of longitudinal joint 20 1/2 Dia. of rivet
 holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness
 If aligned with rings Distance between rings Working pressure by rules End plates: Thickness How stayed
 Working pressure of end plates Area of safety valves in superheater Are they fitted with easing gear

Lloyd's Register
 Foundation
 HUL421-0209

Appendix E – Board of Trade Inquiry Report

(No. S. 322)

"DUNCAN" (SS)

The Merchant Shipping Act 1894

In the matter of a Formal Investigation held at Liverpool on the 31st day of March and the 1st, 2nd and 3rd days of April, 1914, before Stuart Deacon, Esq, Stipendiary Magistrate assisted by Commander W F Caborne, CB, Captain W L Main, and Mr G J Lydamore, into the circumstances attending the stranding of the steamship *Duncan* of Grimsby, on or near the Causeway Rocks, Cardigan Bay, on or about the 1st of February 1914.

Report of Court.

The court having carefully inquired into the circumstances attending the above mentioned shipping casualty, finds for the reasons stated in the Annex hereto, that the vessel stranded on the St Patrick's Causeway, in Cardigan Bay, at about 3:30 pm on the 1st February, 1914, and that such stranding and subsequent loss of the vessel was due to the fact that she was navigated after noon on that day at too great a rate of speed from an uncertain position, without proper recourse being had to the lead, and without a proper look out being kept.

Under these circumstances, the Court finds that the casualty was directly caused by the wrongful act and default of the skipper, Mr George Cooke, and accordingly suspends his certificate for four months, but respectfully recommends that he be granted a second hand's certificate in the meantime.

Dated this 3rd day of April, 1914.

Stuart Deacon, Judge.

We concur in the above report:

W F Caborne

W L Main

G J Lydamore

Assesors

ANNEX TO THE REPORT

This inquiry was held in the Magistrates Room, Dale St, in the city of Liverpool, on the 31st day of March and the 1st, 2nd and 3rd days of April, 1914.

Mr Paxton (Messrs. Avison Morton Paxton and Co), represented the Board of Trade, Mr Ernest Kammerer, of Llanelly, watched the case on behalf of the owners of the vessel; and the skipper, Mr George Cooke, appeared in person, but was not represented by solicitor or counsel.

The *Duncan*, official number, 110945, was a British single screw steamship, built of iron at Beverley, in the County of York, in 1900, by Messrs Cochrane and Cooper, and she was registered at the port of Grimsby. She had two masts, was rigged as a ketch, and was of the following dimensions: length from forepart of stem to the aft side of the head of the sternpost, 114.8 feet; main breadth to the outside of plate, 21.6 feet; and depth in hold from tonnage deck to ceiling at

midships, 11.5 feet. Her gross tonnage was 216.23 tonnes, and her registered tonnage 87.10 tonnes.

She was propelled by triple expansion engines of 57 nominal horse power and 400 indicated horse power, designed to give her a speed of 10 knots per hour, and was fitted with one single ended steel boiler, having a working pressure of 180 pounds to the square inch. The engines were built by Messrs John Cran and Co, of Leith, and the boiler by Messrs Eltringham, of Shields, at the same time that the ship was constructed.

The vessel had two compasses, namely: one on the bridge in front of the wheel, by which bearings were taken, and courses set and steered, and one fixed overhead in the wheelhouse. She was also supplied with Walker's patent cherub log, the usual leads and lines, and the necessary charts.

She carried one boat of the description common to this class of vessel (a steam trawler) with the necessary equipment, two lifebuoys, and nine life jackets, but was not furnished with distress signals. Lastly she was owned by Mr Harry Eastol Rees of 5, Claremont Villas, Mumbles, Swansea, he was also designated her managing owner, under advice received under his hand on the 31st of October, 1913.

During the voyage previous to the one which was the subject of this investigation, that *Duncan* had, on the 4th of December, 1913, stranded in the River Wyre, and sustained damage which necessitated the renewal of the stern frame, rudder post, rudder, tail end shaft propeller, and wheel chains. The above repairs having been effected at Fleetwood, and the vessel being ready for sea, the owner, taking into account the fact that the bridge and wheelhouse were after in the vicinity of the new ironwork, very wisely and properly decided that the vessel should be swung for the adjustment of her compasses before she took her departure for the fishing grounds, and with that object in view communicated with Mr Basil Charles Cousens, a compass adjuster at Fleetwood.

At 10 am on the 24th of January, 1914, *Duncan* left Fleetwood, bound for the fishing grounds in Cardigan Bay, having a maximum draught of 13 feet, being manned by a crew of nine hands all told, and under the command of Mr George Cook, who held a certificate of competency as skipper, No. 1720, and whose name had been on the ship's register since 10th of November, 1913. In pursuance of instructions given by the owner, mentioned above, Mr Cousens was on board, the intention being to adjust the compasses off Lune Deep. There was a fresh southerly breeze and the weather was hazy and thick, with intermittent sunshine. It took about half an hour to get to Lune Deep, but upon arrival there the landmarks generally used in adjusting were totally obscured. However, partly by the trend of the channel in steaming out, and partly by observations of the sun, it was ascertained to Mr Cousens satisfaction that both compasses were correct on the North and South points, and the overhead compass on East.

Here it may be remarked that the latter compass was not supplied with the lamp, and as such being the case, it is obvious that this instrument could not be used at night, either for steering by, or for the purpose of comparison with the bridge compass. In other respects the compasses were in themselves in good order and sufficient for the safe navigation of the vessel.

It was not found possible to make observations on other than the points already enumerated, and there is some slight conflict of evidence with regard to a conversation that took place between Mr Cousens and the skipper.

According to the former he was willing to have stayed on board for a longer time than he actually did, upon the off chance of it becoming clearer, and he stated that there would have been to his interest to have done so, as he was only paid upon the proper completion of his work, but the skipper, who was anxious to get to sea, expressed the opinion that the weather was getting worse, and suggested that he should go ashore, as no further observations would be obtained on that day. On the other hand, the skipper stated that he understood Mr Cousens to say, when

asked, that the compass were not much out and that he thought he(the skipper) would be all right.

The Court accepts the skipper's evidence as to his understanding of the foregoing conversation, although at the same time it is satisfied that no blame attaches to Mr Cousens in the matter.

Before leaving the subject of the adjustment of the compasses, it may be mentioned that they had previously been last adjusted by Mr Christopher Olsen, compass adjuster of Grimsby, on the 13th August, 1913; but the skipper stated that he had not seen any deviation cards on board, although he had found the compass is correct.

To return to the narrative events, a boat having been sent off from the shore by Mr Rees the owner, for the purpose of attending upon and landing the compass adjuster, Mr Cousens left the vessel about 1 pm, when she then preceded to sea.

The *Duncan* in due course arrived in Cardigan Bay, fished off New Quay and other places, and also went over to Lundy island and back, and at 4:30 pm on the 31st of January, Strumble Head bore SE, distance 1½ to 2 miles. The vessel then steamed for an estimated distance of 12 miles, and a cast of the lead was taken in 27 fathoms (sand and shells). After that, the course was altered to N by E for about half an hour, equalling a distance of some 4 miles, when at 7 pm having obtained a sounding of a little over 27 fathoms the trawl was shot.

The craft now fished to the SS Eastward, her approximate speed being about 2½ or 3 knots per hour, and at 10:30 pm, that trawl was lifted, the gear being up by about 11 pm. Until midnight the engine was stopped, and at that hour a cast of the lead was taken in 30 fathoms (stones), after which the gear was shot once more, and towed to the westward until 2 am of the next day, the 1st of February, when a sounding having given 36 fathoms, the trawl was hauled up again, the operation being completed about 2:30 am. The distance made between midnight and 2 am was about 6 miles. There being a strong breeze from the SW, and a heavy sea, the ship was laid to until 9 am, when a cast of 30 fathoms was obtained. The wind at this time was SW by S, and the skipper now ordered the endings to be put ahead, and the vessel steered to windward. This was done, her head being from SW by W to WSW, but owing to the strength of the breeze and the height of the sea, only some 7 knots were covered by noon.

At 12:00 o'clock, a sounding was obtained in 30 fathoms (sand and shells), and the position then assigned to her, as marked on the chart by the skipper, was in latitude 52 14'N and longitude 4 55'W.

From this assumed position, which events proved to be erroneous, an NE course was set, the expressed intention of the skipper being to make Penkilan Head, with a view to fishing in the deep water lying to the southward of that point, near the Devil's Tail.

Both the skipper and the boatswain appeared to have been on the bridge for a short time, and then the look out and the wheel were left in charge of two of the deckhands, while other members of the crew were repairing the nets.

The breeze was strong from the SW, there was a high sea, and the weather was hazy, as indeed it would seem to have been from the time that the trawler left Fleetwood, and the vessel was making a speed of eight knots per hour through the water by estimation, the revolutions being from 100 to 102 per minute, and the patent log not being used.

Under these circumstances, about 3:15 pm, the ship suddenly struck on what proved to be St Patrick's Causeway, in Cardigan Bay. The engines were worked as considered requisite, but the vessel remained fast and her hull commenced a leak in a manner with which the ejector was unable to cope. After nightfall distress signals were made by means of burning tarred nets and paraffin, and by hoisting red lights, but no assistance came, and at 9 pm, the trawler gradually breaking up, and the water being nearly up to the top of the cylinders in the engine room, the

skipper and his crew took to their boat and abandoned the *Duncan*, which became a total wreck. The boat reached Pwllheli in safety about 3 o'clock on the following morning, the 2nd February 1914, and it is satisfactory to record that no lives were lost in this casualty.

The skipper attributed the loss of this vessel to an error in the compasses, but the opinion of the Court is fully set forth in its answers to the questions of the Board of Trade. Although finding the skipper in default, the court has dealt leniently with him, in view of his long service and good character. At the conclusion of the evidence, Mr Paxton on behalf of the Board of Trade, submitted the following questions for the opinion of the Court:

1. What number of compasses had the vessel? Were they in good order and sufficient for the safe navigation of the vessel, and when and by whom were they last adjusted?
2. To what extent were the compasses, or either of them, adjusted By Mr B C Cousens, compass adjuster , on or about the 24 of January last? Was the skipper justified in proceeding to sea without them having them further adjusted?
3. Did the skipper ascertain the deviation of his compass is by observation from time to time? Where the errors correctly ascertained, and the proper corrections to the course is applied?
4. Were proper measures taken to ascertain and verify the position of the vessel when she left the fishing grounds at about noon on the 1st February, last? Was a safe and proper course then set and thereafter steered, and was due and proper allowance made for tides and currents?
5. Having regard to the state of the weather after the vessel left the fishing grounds at about noon on the 1st of February last:
 - a) Was the vessel navigated at two greater rate of speed?
 - b) Was the lead used if not should it have been used?
6. Was a good and proper look at kept?
7. Was the skipper just divide in allowing two deckhands only to be on the bridge from about 1 pm until the ship struck?
8. Were all possible efforts made to save the vessel?
9. What was the cause of the stranding and loss of the vessel?
10. Was the vessel navigated with proper and seamanlike care?
11. Was the loss of the *SS Duncan* caused by the wrongful act or default of the skipper?

The skipper having addressed the court, the court then gave judgement as above, and returned the following answers to the questions of the Board of Trade:

1. The vessel had two compasses, one on the bridge in front of the wheel, and one fixed overhead in the wheelhouse. They were, in themselves, in good order and sufficient for the safe navigation of the vessel, except for the fact that the lamp required for the overhead compass had not been supplied, and consequently this compass could not be used at night.

The compasses had last been completely adjusted by Christopher Olsen, compass adjuster, of Grimsby, on the 13 of August, 1913, and in consequence of the vessel having undergone repairs at Fleetwood just previously to her present voyage, it was considered desirable by the owners that the compass is should again be adjusted, and for that purpose, Mr Cousens, compass adjuster, of Fleetwood, received instructions to join the vessel and accompany her to Lune Deep for the purposes of their adjusting the compass is before the vessel sailed to the fishing grounds. Unfortunately, when the vessel arrived at Lune Deep at about 11 am on the 24th January last, the

weather was so hazy and thick that the adjustment could not be satisfactorily accomplished as detailed in the answer to the next question.

2. Mr Cousens stated to the court that the observations which he obtained in Lune Deep were sufficient to satisfy him that both campuses were correct on the Cardinal points North and South, and the overhead compass also on East, Mr Cousens observations did not go beyond this, when, as the skipper desired to sell for the fishing grounds, he left the vessel.

As regards the question as to whether the skipper was justified in proceeding to sea without any further adjustment of his compasses, the court is unable to say that he was so justified, but the skipper stated in his evidence that he understood Mr Cousens to say that he would be all right, and that the Court accept the skippers evidence on this point, although at the same time it is satisfied that no blame attaches to Mr Cousens in the matter.

3. The skipper did not ascertain the deviation of his compasses by observations from time to time by reason of the fact that joined the whole of the time He was in the fishing grounds the weather was too hazy to obtain any observations.

4. The skipper endeavoured to ascertain the position of his vessel at about noon on the 1st of February last, by means of the lead which, having regard to the then state of the weather, was the only means open to him, unless he had adopted the alternative of steaming towards the land and thereby ascertaining his exact position, which, under the circumstances, the Court could hardly expect him to have done. Having regard to the fact that the skipper knew that his position was uncertain he did not thereafter set and steer a safe and proper course nor does any allowance appear to have been made for tides and currents.

5. Having regard to the state of the weather after the vessel left the fishing grounds at about noon on the 1st of February last, the Court has no hesitation in saying that:

- a) The vessel was navigated at too great a rate of speed, and
- b) The lead, which was not used ought to have been used.

6. A good and proper look at was not kept.

7. The skipper was not justified in allowing two deckhands only to be on the bridge from about 1 pm until the ship struck. He or one of the other officers ought to have been on the bridge under the circumstances.

8. Having regard to the position in which the ship was placed after she struck the Causeway, the court is satisfied that practically nothing could be done to save the vessel, and that all that could be done was done.

9. The cause of the stranding and loss of the vessel was:

- a) The navigation of the vessel at two greater rate of speed from another unascertained position;
- b) The neglect of the lead, and
- c) The want a proper look out.

10. Under the before mentioned circumstances the Court has no hesitation in finding that the vessel was not navigated with proper and seamanlike careful manner.

11. The loss of the SS *Duncan* was caused by the wrongful act and default of the skipper, Mr George Cooke.

Stuart Deacon, Judge.

We concur in the above report.

W F Caborne

W L Main

G J Lydamore

Assessor's.

Liverpool, 6th April, 1914.

(Issued in London by the Board of Trade on the 12th day of May, 1914).

Appendix F – The Timeline for the *SS Duncan*

Date	Activity
16 th January 1900	Launched Cochrane & Cooper, Beverly. Yard No 278. GY1148
9 th March 1900	First registered, Grimsby. Official number 110945. Fishing number GY1148. Owners William Grant and Andrew Cochrane. Master John Wood.
15 th October 1901	Arthur Bainbridge bought out Andrew Cochrane.
29 th October 1913	Mortgage discharged. Arthur Bainbridge died in July 1904 and left the vessel to his wife Elizabeth Ann Bainbridge.
31 st October 1913	Bill of Sale from William Grant (32/64) and Elizabeth Ann Sanderson (32/64) to Harry Eastoe Rees (64/64) of 5 Claremont Villas, Mumbles, Swansea
1902	<i>Duncan</i> came back into dock with the dead body of her chief engineer, Fred Hill, aboard. Hill, who was well known amongst engineers, was having his tea with the skipper, when he fell forward and expired. The vessel was some 120 miles off Spurn Head at the time, and immediately the trawl was got up and course shaped for Grimsby.
1903	Towed by the North Shields trawler <i>Tyne Monarch</i> from the North Sea, with her tail end shaft broken
1904	The death by accident at sea of one of the crew, a trimmer, named Thomas Lawler, aged 45, a native of York
1906	Matthias Brown, a fisherman, at Grimsby, charged with refusing to sail in the trawler <i>Duncan</i> . As the trawler was about to leave the dock, the prisoner jumped on the quay and refused to sail, complaining the vessel was leaky. It was admitted that there was a small leak forward, but Brown alleged that there were eighteen inches of water in the trawler and that it had taken an hour and forty minutes to pump her dry during the last voyage.
1909	Returned to Grimsby with her boiler disabled.
1910	Returned to port (Grimsby) having lost her rudder, steering with one of the trawl boards.
November 1913	Purchased by Messrs. Rees and Bartes, fish merchants, Swansea, at a cost of about £3,000
4 th December 1913	Ran on the sand bar at Wyre Light, Fleetwood and was under repair for about six weeks. Damage needed the renewal of the stern frame, rudder post, tail end shaft, propeller and wheel chains.
24 th January 1914	Left Fleetwood, attempted to swing her compasses in the Lune Deep. Unable to swing the compasses due to poor visibility and Captain elected to sail all the same. Skipper stated that he understood Mr. Cousens the compass adjuster to say, when asked, that the compasses were not much out and that he thought they would be all right.
24 th January 1914 – 31 st January 1914	Fished off New Quay and other places in Cardigan Bay and also went over to Lundy Island and back. At 4.30 p.m. on the 31 st January Stumble Head bore SE, distant 1½ to 2 miles.
1 st February 1914	Steering a NE course, the Skipper intended to make Penkylan Head ²⁸ , to fish in the deep water south of the point, near the Devil's Tail. Ran onto St

²⁸ Penkylan Head is not shown on the OS maps or Admiralty charts but is noted to be the same as Trwyn Cilan at approximately 52° 46.7'N 004° 31.8'W. The Devils Tail is shown on Chart 1971 in the area around 52° 38'N 004° 42.5'W about 17 nm south of Aberdaron. Source British Islands Pilot Vol II 1924 Hydrographic Office US Navy

https://books.google.co.uk/books?id=d0NAQAAMAAJ&pg=PA323&lpg=PA323&dq=trwyn+cilan+penkylan&source=bl&ots=MQ9vS4ALy3&sig=ACfU3U1NA_rnPBq_Y2HqD1lpQRJjXkXeg&hl=en&sa=X&ved=2ahUKewjxva2y-ozvAhULXMAKHZjCEMQ6AEwD3oECAkQAw#v=onepage&q=trwyn%20cilan%20penkylan&f=false accessed 28/02/21

	Patrick's Causeway approx. 3.15pm. Vessel breaking up badly, 9pm crew took to the boats.
2 nd February 1914	Crew reached Pwllheli about half past three in the morning after six hours of hard rowing in stormy seas.
14 th February 1914	Registry closed.
March / April 1914	Board of Trade Inquiry. The Court found that the loss of the <i>Duncan</i> was because she was navigated after noon on the 1 st February at too great a rate of speed and from an uncertain position, without proper recourse to the lead and without a proper lookout being kept.