

IONA II DIVE TRAIL

History & Shipbuilding Booklet



For a vessel with such a short history, the *Iona II* provides numerous stories about the development of the mass leisure industry and the glory days of shipbuilding on the Clyde. It also demonstrates the connections between the UK and the American Civil War. The *Iona II* ended its colourful life with a crew mutiny on the vessel's final voyage.



ENGLISH HERITAGE



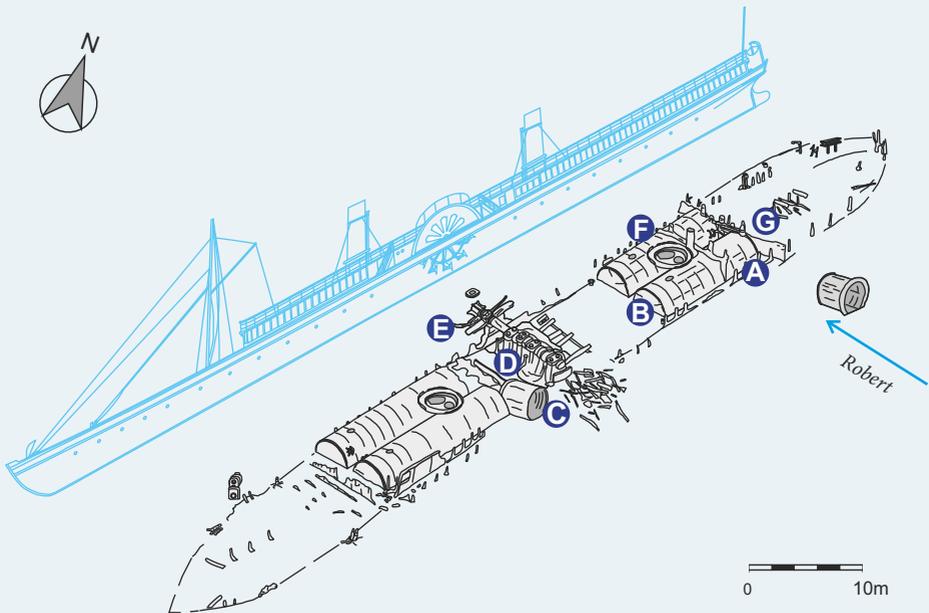
www.landmarktrust.org.uk/lundyisland/iona-ii-dive-trail

NAVIGATING THE WRECK

Parts of this Information Booklet correspond with the **Shipbuilding Underwater Guide**. The letters on the plan below are also on the Shipbuilding Underwater Guide and correspond to areas of interest around the wreck which are explored further in this booklet.

The *Iona II* wreck site is on the east coast of Lundy Island. The seabed around the *Iona II* wreck is generally flat, with a slight slope east of the amidships area. The seabed is coarse, firm, level mud and fine silt with some areas of fine sand within the wreck and some gravel patches around the boilers.

The wreck lies at 22 to 28 metres depending upon the state of the tide. Visibility can vary from 1 to 15 metres. The best time to dive is at slack water, which is two hours either side of low water.



Access to the *Iona II* Dive Trail is via the *Robert* wreck buoy. From the *Robert's* rudder, head 35m on a bearing of 245 degrees or WSW to reach the *Iona II*.

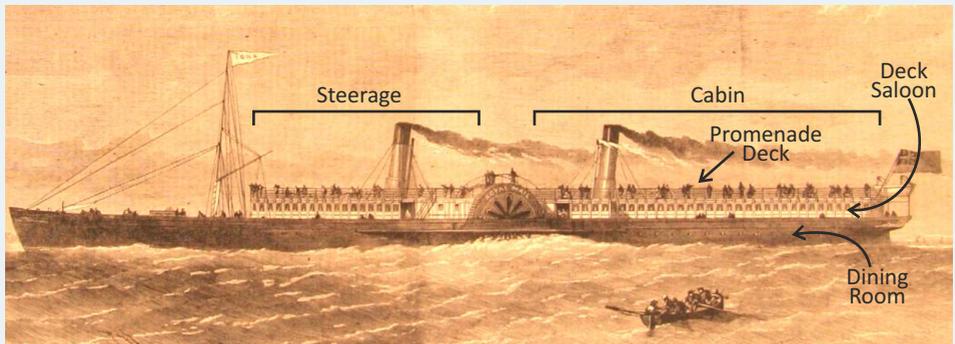
PS IONA II

The *Iona II* was an iron hulled paddle steamer built in 1863 at the Clyde shipyard of J & G Thomson as a mail and excursion steamer for David Hutcheson and Co. This vessel represented the height of mid-nineteenth century passenger steamers in both technical innovation and luxury. It had a narrow clipper like bow with a long thin iron hull that was 245ft (75m) in length and 25ft (7.6m) in the beam (excluding paddle boxes). The reported cost of construction was £18,000.

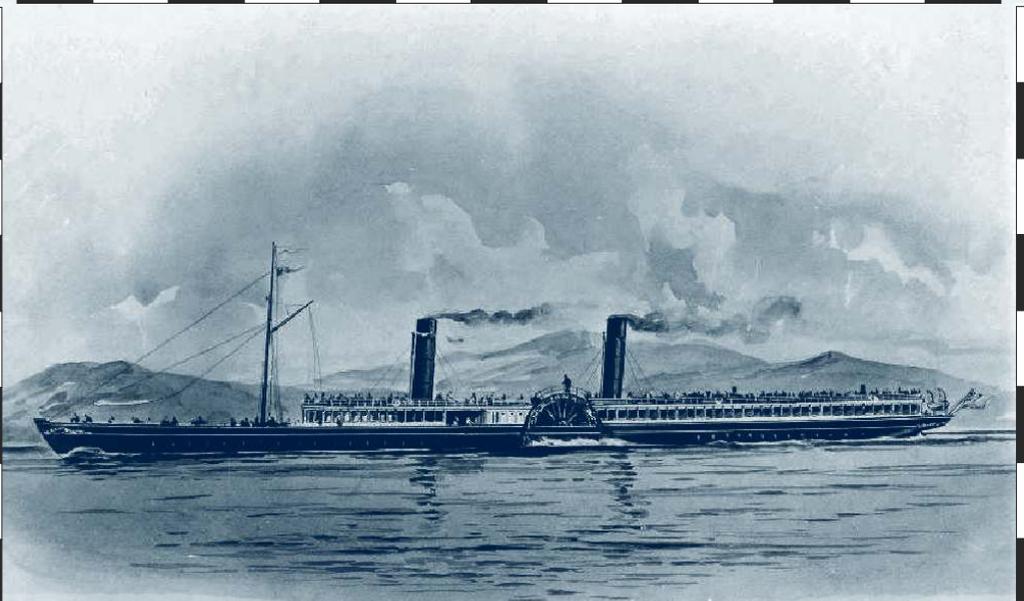
At its launch it was reported in the *Glasgow Herald* on the 25th of June 1863 that “Expectation was on tiptoe this morning amongst a large crowd on the quay, for the arrival of the first-named vessel [*Iona II*], than which one could hardly conceive a more magnificent specimen of naval architecture.”

Clyde steamers were renowned for their creature comforts; however, the *Iona II* surpassed most other vessels. Space was available for both cabin and steerage passengers to dine, wash and walk in surroundings suitable to their station in life. The first class dining room was 70ft in length and fitted out with crimson velvet sofas, gilded mirrors and Ionic columns. There were also ladies and gentlemen’s retiring rooms with washing facilities.

The most notable feature of this vessel was the 180ft saloon which was fitted out in luxurious furnishings. Above this was a promenade deck running the length of the vessel allowing passengers to view their surroundings. Steerage passengers were quartered in front, while cabin passengers were aft of the paddle wheels.



CLYDE SHIPBUILDING



Watercolour of *Iona II* (McLean Museum and Art Gallery, Inverclyde Council)

In the early 1800s, technological developments allowed steam power to be used as a method of propulsion in ships, and the shipyards on the Clyde were leaders in this field. Beginning in 1812 with the construction of the steam boat *Comet*, the River Clyde was to become the greatest steam and iron ship building centre in the world. When *Iona II's* shipbuilders J & G Thomson were first established in 1851 there were six shipyards based on the Clyde. At the peak of this shipbuilding industry, in the

beginning of the 20th century, there were over 200 separate yards constructing vessels from cruise liners to warships and yachts to submarines.

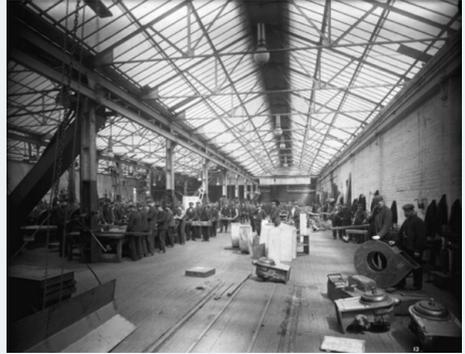
Famous ships that were built on the Clyde include:

- *Cutty Sark* (1869) clipper
- RMS *Lusitania* (1906)
- HMS *Hood* (1918) battle cruiser
- Cunard's RMS *Queen Mary* (1936)
- The Royal Yacht *Britannia* (1953)
- *QEII* (1969) Transatlantic liner

J & G THOMSON

In 1851, the brothers James and George Thomson expanded their engineering works on the banks of the Clyde to include shipbuilding. They specialised in fast iron paddle steamers particularly those of the luxury passenger carrying type, such as Cunard liners and the *Iona II*. During the 1860s many of their vessels became blockade runners either as repurposed river steamers or built specifically for the Confederate cause.

In 1872, the shipbuilding business was forced to move downstream to the junction of the Rivers Clyde and Cart by the expanding Clyde Harbour Trust. Despite severe financial difficulties, the company developed a reputation for engineering quality and innovation for their vessels and high standards for workplace facilities. Over the years, the facilities needed for the shipbuilders were constructed around the yard and

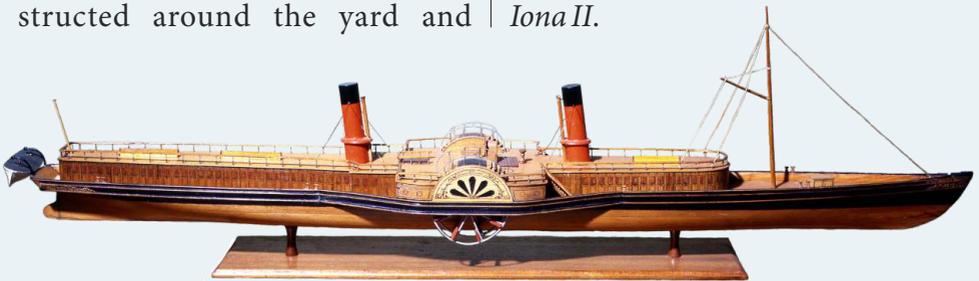


Sheet iron shop at John Brown & Co, Clydebank (Bedford Lemere & Co)

developed into the township of Clydebank.

By 1897 ship orders began to decrease and the Thomson family company sold the yard to John Brown and Co. who continued to build ships in the yard until it folded in 1971.

During the 120 years of this leading shipbuilding company, 744 vessels were constructed, many of them making a distinct mark on history, such as the RMS *Queen Mary*, *Queen Elizabeth II* and PS *Iona II*.



Model of *Iona II* (McLean Museum and Art Gallery, Inverclyde Council)

AFT BOILERS

The *Iona II* was powered by steam produced in tubular scotch boilers (C) which operated the oscillating engine and turned the paddle wheels. This was the main form of ship propulsion during the 1860s. While there were many different types of scotch boilers, they all basically worked in the following manner.



Front of boilers (C) (M. Deaton)

Stokers threw coal into the firebox (A) at the base of the boilers, which burned producing great heat. The *Iona II* carried about 300 tons of coal on board when the vessel set off to cross the Atlantic and some is occasionally visible on the seabed at the wreck.

The hot gas from the firebox passed through tubes, heating the water until it turned into steam. The *Iona II* also contained a superheater which further heated the steam and increased the efficiency of the boiler. The steam was then directed into the engine to operate the machinery before condensing back into water for the process to start again.



Firebox (A) (M. Deaton)

The two sets of scotch boilers on the *Iona II* were made of iron plates riveted together. The forward pair of boilers are 9.2m long and close to the paddle wheels at the centre of the vessel, while the aft pair are only 5.4m long and further away. Each pair of boilers shared a smoke stack (D) which allowed exhaust gas from the furnace to be expelled. Such smoke stacks are an iconic feature of steam vessels.

Ship plans show that the top of the boilers was in line with the main deck level and, therefore, the deck supports (shown as B on the wreck plan) in these aft boiler rooms would have supported the upper decks.



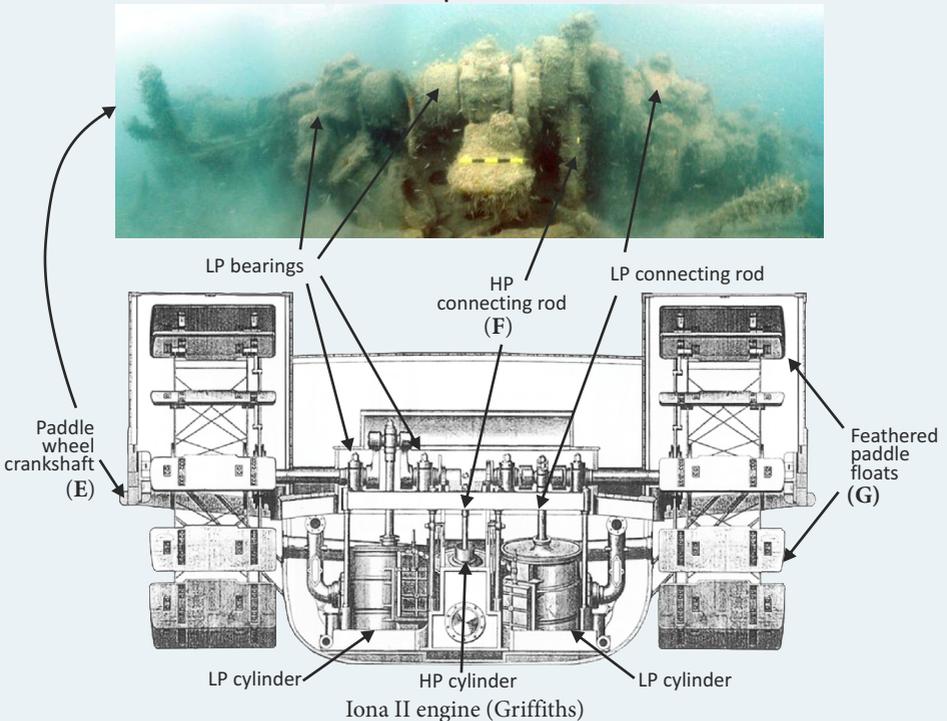
Smoke stack base (D) (S. Prentice)

ENGINE

The *Iona II* demonstrated the peak of 19th century shipbuilding, particularly in its state-of-the-art oscillating engine of 150 horsepower. Due to its superior engine, the *Iona II* reportedly reached 24 knots during sea trials which was almost 10 knots over the average paddle steamer speed of the day.

The oscillating engine received steam from the boilers through the high pressure (HP) intake valve which controlled when steam was allowed into the HP cylinder. The steam forced the HP piston up which turned the crankshaft (E) via the connecting rods (F) and rotated the wheels with the feathered paddle floats (G). Used steam was exhausted from the oscillating HP cylinder to the low pressure (LP) cylinders via another valve, to be reused, before being finally exhausted to the condenser. The oscillating engine used cylinders which pivoted to follow the crankshaft movement rather than the more common fixed cylinder type. This allowed the engine to be much smaller and lighter.

The connecting rods for the HP and LP cylinders and valves can still be seen on the crankshaft but the cylinders are now buried.



PASSENGER STEAMERS

By the mid-19th century Clyde-built paddle steamers were playing a key role in the transport of people and cargo around the region, and in conjunction with the railways, saw the beginnings of holidays for the masses. These vessels represented the cutting edge of fast steamship design and luxury.

A description of the *Iona II* in the *Glasgow Herald*, 20th May 1863 tells us the following: "The accommodation provided for passengers is of a very superior description – such, indeed, as cannot fail to render the boat a prime favourite even among the commodious steamers of the Clyde."

Numerous steamers provided transport of passengers and cargo around Scottish waters. The *Iona II* provided an almost daily service around the Western Isles.

Shipping—CONTINUED.

PLEASURE EXCURSIONS.

The Royal Mail Steamer "IONA"
Leaves Glasgow Bridge Wharf DAILY (except Sunday) at 7 A.M.,
Train to Greenock 7.40 A.M., for ARDRISHAIG, calling at KILRN,
DUNOON, INNELLAN, ROTHESAY, KYLES OF BUTE, and
of TARBERT; leaving ARDRISHAIG for GLASGOW about
12.40 P.M.

RETURN TICKETS.

Those issued on Saturdays are available on Mondays.

	Cabin.	Steerage.
Glasgow to Dunoon and Back	1s. 3d.	1s. 3d.
" Innellan	2s. 0d.	1s. 6d.
" Rothesay	2s. 0d.	1s. 6d.
" Kyles of Bute	2s. 0d.	1s. 6d.
" Ardrishaig	8s. 0d.	3s. 0d.
" Inveraray	7s. 0d.	3s. 0d.
Greenock to Kyles of Bute	2s. 0d.	1s. 6d.
" Ardrishaig	5s. 0d.	2s. 6d.
Greenock to Inveraray	6s. 0d.	3s. 0d.
Dunoon to Kyles of Bute	2s. 0d.	1s. 6d.
" Ardrishaig	4s. 0d.	2s. 0d.
" Inveraray	5s. 0d.	3s. 0d.
Rothesay to Kyles of Bute	1s. 6d.	1s. 0d.
" Ardrishaig	2s. 0d.	1s. 6d.
" Inveraray	2s. 0d.	1s. 6d.

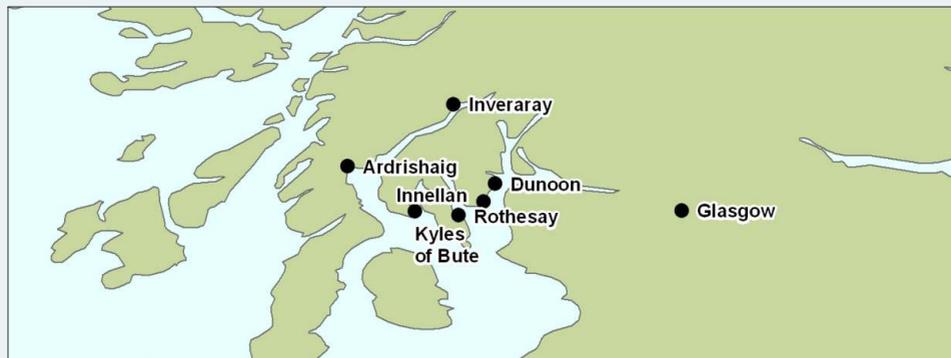
NOTE.—Passengers conveyed to Inveraray on Wednesdays and Fridays, and join the "Mary Jane" at Ardrishaig.

DAVID HUTCHESON & CO.

Glasgow, Aug. 1, 1863.

Advert from the *Glasgow Herald*, 3rd Aug. 1863

The elegant steamships that plied the Western Isles were a popular and well-loved part of the community were also participants in everyday life. Not only did this vessel deliver mail and transport passengers to holiday destinations, it also saw the birth of a baby girl delivered of Mrs Alex Robinson on the 20th of July 1863 somewhere between Greenock and Bowling.

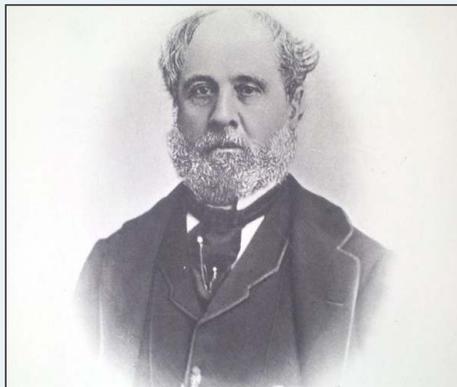


Iona II ports of call in the Western Isles

DAVID HUTCHESON

David Hutcheson & Co was established in 1851 by the partners David Hutcheson, Alexander Hutcheson and David MacBrayne. They serviced the lucrative Glasgow to Ardrishaig mail run and transported passengers and freight to the outer western islands. In the summer months a tourist run to the western isles was operated. This encouraged visitors to explore the wonders of the islands and resulted in developing towns and boosting the economies of remote and isolated communities.

Many of the ships owned by David Hutcheson & Co were constructed by J & G Thomson as there was a long standing business arrangement and friendship between these two companies. The first such vessel was the PS *Mountaineer* which was purchased in 1852 closely followed three years later by PS *Clansman* and PS *Iona*. Hutcheson went on to buy three vessels named *Iona* from the Thomson yard. The first was in 1855 which was sold to Confederate forces in 1862, but sank before it had



Portrait of David Hutcheson (MacLehose)

even left the Clyde. The second new and improved version, *Iona II*, was launched in 1863 and suffered a similar fate to its predecessor. This was replaced with the *Iona III*, which was launched in 1864 and continued its service until it was scrapped in 1936.

After the retirement of David and Alexander Hutcheson, David MacBrayne took exclusive control of the company from 1879 until his death in 1907. There was a succession of shared ownerships in the 20th century with the business eventually developing into the ferry company that it is today – Caledonian MacBrayne.



Iona III at Ardrishaig (McLean Museum and Art Gallery, Inverclyde Council)

AMERICAN CIVIL WAR

History

The American Civil War took place from 1861 and 1865 with the slave owning southerners fighting against the industrialised northerners. While it was a single nation war, its effects spread far and wide including to the United Kingdom.

One of the major tactics of the northern Union states was to blockade the ports of the southern Confederate states in order to cut off their trade routes. The Confederates needed fast vessels to break the blockade to export their main commodity, cotton, and to import weapons. The best place to find suitable vessels was on the Clyde.

The Clyde and the American Civil War

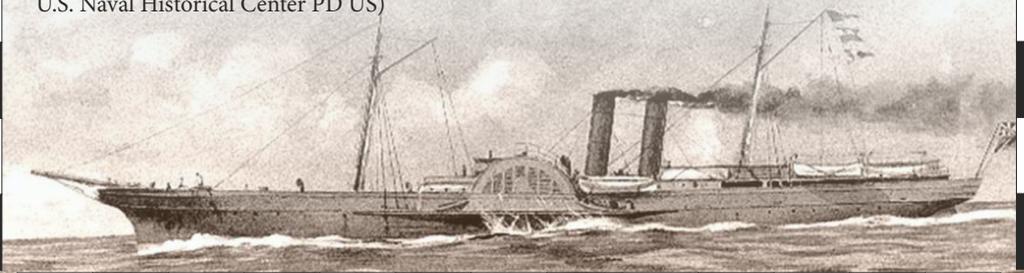
During the 1860s, the world leader in producing ships was the Clyde. Up to 14 of the vessels that came out of the J & G Thomson yard during this short time were destined for the American Civil War. Some of these

Clyde built vessels were built as river steamers and then sold on by local shipping agencies at high prices to the Confederates. Others were purpose built for the cause and in 1864 alone, 50 vessels were launched intended for blockade running.

Not only were these vessels fast, reliable and well built, they were also shallow to cope with Scottish rivers. These characteristics were needed for blockade runners to outrun the blockading ships. Moreover, they were not reliant on unpredictable wind power and had a low draught for the shallow Confederate ports.

There were many Clyde-based shipbuilders, ship owners and Confederate middlemen willing to risk breaking Britain's neutral status by running the blockade to make a quick fortune. The amounts of money made in sending ships to the American Civil War spurred on new developments in shipbuilding with the drive to create faster and more efficient ships.

Advance blockade runner (R.G. Skerrett, U.S. Naval Historical Center PD US)



LAST VOYAGE

The final journey of the *Iona II* was reported in detail at the Board of Trade inquiry and this is why the particulars of this fateful voyage are still known.

Departure from Glasgow

On 16th January 1864 the *Iona II* journeyed down to Waterford Harbour to drop off the pilot but had to weather a storm in the harbour until 24th January.

The vessel steamed to Queenstown during which time a small leak in the hold was identified, but it was fixed with red lead and oakum while in port.

Mutiny at Queenstown

Just as the *Iona II* was ready to put to sea on 28th January, thirteen of the stoker firemen refused to work as they were not satisfied that the vessel had been suitably repaired.

A magistrates' enquiry proved that the vessel was seaworthy and gave the crew the option to return to work or spend 10 weeks in jail with hard labour. According to the *Glasgow Herald* (23 March 1864), nine of them exclaimed: "Oh! we are quite willing to bear the lash of the law for it."



Route of the final voyage

Setting sail 30th January

After finding replacement crew, the vessel set off for the Atlantic. The following is the final chronology of events:

31 January

8am: Vessel started to leak

2pm: Bilge pumps clogged, changed direction to Milford Haven

1 February

8am: Two feet water in the hold

6pm: Six feet water in hold

7pm: Forward boilers flooded

11:30pm: Engines flooded, anchors set, flares released

2 February

12am: Pilot boats rescued 39 crew and took them to Ilfracombe

2am: *Iona II* sank off the east coast of Lundy Island

AFTER THE WRECK

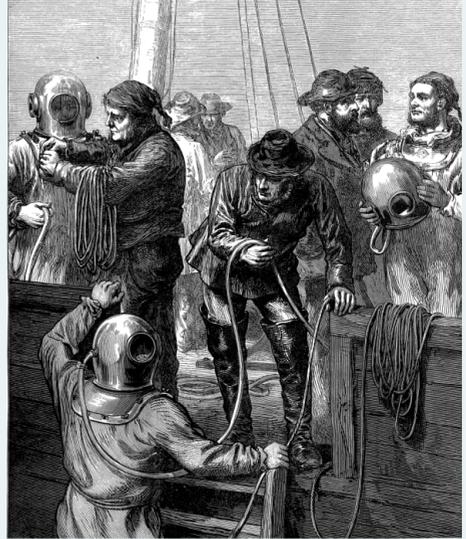
Board of Trade inquiry

The inquiry into the sinking of the *Iona II* commenced on 22nd March 1864. Many of the crew were present as witnesses to the event along with other relevant individuals, including the Manager of J & G Thomson and a local ship surveyor.

The final judgement of the inquiry was reported in the *Glasgow Herald*, 26th March 1863. While this Court had no jurisdiction to decide whether the *Iona II* was suitable for making a transatlantic voyage, no blame was placed on either the captain, who had operated the vessel to the best of his ability, or the owners, who had done everything in their power to adapt the well-built vessel for the Atlantic crossing.

Contemporary Salvage

While it is still uncertain what cargo the vessel was carrying, it was obviously important enough for the crew to risk their lives in removing the cargo from the sinking vessel. One of *Iona II*'s boats became overloaded with cargo and sank, while another broke loose and drifted to the mainland.



Illustrated London News 6 February 1873

In the middle of March 1864 a diver verified the identity of the wreck and noted that it was lying upright on a sandy bottom, which were ideal conditions for raising the entire vessel. It was quickly realised that as Lundy had no flat beach, the raised vessel would have to be landed on the mainland. Thankfully this never happened and the two subsequent salvage operations only raised a few fathoms of chain cable and funnel before work ceased leaving a relatively intact wreck for future generations.



For more information about the *Iona II*
www.landmarktrust.org.uk/lundyisland/iona-ii-dive-trail