

S.S. "Andalusia" 23079 Iron Ships
LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES. *Now renewed (1879)*

Report (if any) on Hull of Vessel. No. 4839 Port Glasgow

Description <i>Compound Inverted Direct Acting</i>	Are all the bilge suction pipes fitted with roses <i>Yes</i>
Made by <i>Messrs. Hutson & Corbett</i>	No. of feed pumps <i>One</i> and sizes <i>3 1/4" dia x 16" stroke</i>
When <i>1879</i> At <i>Glasgow</i>	What gauges are there attached to the engines and boilers ... <i>Two Steam One Vacuum & One Compound</i>
Diameter of cylinder <i>31 1/2" x 34"</i> Length of stroke <i>30"</i>	Description and size of Donkey Pumps ... <i>Double Acting 4" x 10" stroke 9" cylinder</i>
No. of revolutions per minute	Where do they pump from ... <i>From the Sea & Bilge</i>
Point of cut off	No. of bilge injections <i>One</i> and sizes <i>2 3/4"</i>
Diameter of screw shaft <i>6"</i>	Are they connected to air, or circulating pumps <i>No Circulating</i>
Diameter of crank shaft journals <i>4"</i>	Is there a hand pump in the engine room <i>Yes</i>
Diameter of screw, or of paddle wheel <i>9 1/2"</i>	Can it be worked by the main engines <i>No</i>
Pitch of screw <i>12 1/2"</i>	Is there a deck hose of sufficient length to reach to any part of the vessel <i>Yes</i>
No. of blades <i>Four</i> Total surface	
No. of bilge pumps <i>One</i> and sizes <i>3 1/4" dia x 16" stroke</i>	
Do they pump from each compartment <i>Yes</i>	

MAIN BOILERS.

Number <i>One</i>	Description <i>Round Horizontal</i>	Can the super-heater be shut off and the boilers worked separately
Made by <i>Messrs. Hutson & Corbett</i>		Description and area of safety valves on each boiler ... <i>Two Direct Spring Lock 9.6" area</i>
When <i>1879</i> At <i>Glasgow</i>		No. of square feet of fire-grate surface in each boiler <i>18 1/2</i>
Working pressure <i>40 lbs</i>		Are there separate blow off and brine cocks on each boiler, independent of those on the vessel's skin <i>Yes</i>
Tested by hydraulic pressure to <i>140 lbs</i> , Date <i>Jan 4 1879</i>		Are all pipes, cocks, roses, and pumps in connection with the machinery accessible at all times. <i>Yes</i>
Description of super-heating apparatus <i>Longitudinal Receiver</i>		
Can each boiler be worked separately		

DONKEY BOILER.

Description <i>Round Vertical</i>	Tested by hydraulic pressure to <i>100 lbs</i> , Date <i>Feb 17 1879</i>
Where fixed <i>In Storehold</i>	Description and area of safety valves <i>Lever & Weight 4" area</i>
Working pressure <i>50 lbs</i>	No. of square feet of fire grate <i>2 1/2</i>

PIPES, COCKS, AND CONNECTIONS.

Are all connections with the sea direct on the skin of the ship <i>Yes</i>	What pipes are carried through the bunkers <i>none</i>
Are they Kingston valves or common cocks ... <i>Screw down valves and Cocks</i>	How are they protected
Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates ... <i>All Cocks now moved to the upper turn of bilge</i>	When were the stern tube, propeller, screw shaft, and all connections examined in dry dock <i>On Slip & Dry 5th 1879</i>
Are the discharge pipes above or below the deep water line <i>Above</i>	Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilge <i>Yes</i>
Are they each fitted with a discharge valve on the plating of the vessel <i>Yes</i>	Is the screw shaft-tunnel water tight and fitted with a sluice door on bulkhead <i>No Tunnel the Engines are fitted close to the Stern.</i>
<i>Hutson & Corbett</i> Manufacturer.	

I hereby certify that the whole of the above are correct particulars of the Machinery and Boilers of the Iron (~~or Wood~~) Screw (~~or Paddle~~) Steam Vessel *"Andalusia"* owned by *W. S. Armstrong* of the Port of *Glasgow* of *160* Tons Register, and *60* Registered Horse Power, and that they have been carefully inspected and examined by me at *Glasgow* and found to be at this date, viz., *March 21st 1879* in good order and safe working condition.

Amount of Fee for Survey ... £ 5 : - : *paid*
(Travelling Expenses, if any, £ ...)

James Mollison
Engineer Surveyor to Lloyd's Register of Shipping.

The Engine and Boiler of the vessel
have been built and fitted in
accordance with the rules
submitted that she is eligible
to have Lloyd's N.R.C. and
a machine certificate from

21st March 1879

W
4-4-79



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