

# Report of Survey for Repairs, &c., of Engines & Boilers.

9700

No. **9400** Port of **Glasgow** (Received at London Office, **TUES 18 MARCH 1890**)  
 Reg. Book. Survey held at **Glasgow** Date, first Survey **4<sup>th</sup> Feb<sup>ry</sup>** Last Survey **5<sup>th</sup> March 1889**  
 on the Machinery of the **S.S. "Harold"** (No. of Visits **5**) Tons, Net **536** Gross **833**  
 If Surveyed Afloat or in Dry Dock **Both Hendersons** Vessel built at **Belfast** in **1887** Engines made in **1887**  
 No. of Main Boilers **One** Made in **1887** Donkey Boiler made in **1887** Working Pressure, Main Boilers **160** lbs.;  
 Working Pressure, Donkey Boiler **lbs.**; Owners **S.S. Harold & Co. Ltd (Glasgow & London & Co.)** Port **Glasgow**  
 Last Survey No. **Port** Class of Vessel and Machinery **100A.1 G-89**  
(As in Register Book.)

Particulars of Repairs and Examination **Special damage survey of main boiler + L.M.C. 3-87.**  
(State clearly the cause of Repairs if any, and, in detail, the nature and extent of Examinations and subsequent Repairs.)

Repairs on account of Damage should be separated from Repairs due to other causes. State also the dates and initials of any letters respecting this case.

Did the Surveyor personally go inside each Boiler separately (including the Donkey Boiler, if any), and make a thorough examination at this time? **Main boiler**

If this was not done, state for what reasons?

And what parts of the Boilers could not be thus thoroughly examined?

Also what special means, in the absence of internal examination, were adopted by the Surveyor to assure himself of the thorough efficiency of those parts of each Boiler?

At the request of Owners made a special survey of the main boiler of this vessel on account of damage stated to have occurred through shortness of water while the vessel was on a voyage from **London**.  
 On examination found the back tube plates all sprung, <sup>all</sup> tubes leaking, all more or less, the centre box being the worst. Centre combustion chamber back plate buckled between the stays for a distance of five spaces commencing at about the fifth row down from the top. Top plate in this chamber also buckled between the stays, and back top beam distorted, very much sprung & leaking badly. All the screwed stays in way of buckling in both back & top plates leaking badly. In the side or wing combustion chambers, about level with top of furnace and for a space covering about two rows of stays, the back plates were also buckled and the screwed stays in way of buckling all more or less sprung & leaking. Found a patch on back centre combustion chamber plate, said to have been lately fitted at **Penzance** but not intended for a permanent repair.

Internally the boiler was found to be in a somewhat dirty condition, a quantity of scale on all parts especially in furnaces & combustion chambers, though the owners state that as far as they are aware every opportunity has been taken to have the usual scaling & cleaning carried out.

Recommended that the boiler be re-tubed - that the stays in way of buckling of back combustion chamber plates be all removed - the holes all reamed out and new stays a size larger fitted - that the top plate of centre box be taken out, straightened & re-placed, or

General Observations, Opinion, and Recommendation: — **(see over.)**  
(State clearly what alteration, if any, is suggested to be made in the existing classification and notification of the vessel's machinery in the Register Book, consequent upon this survey.)

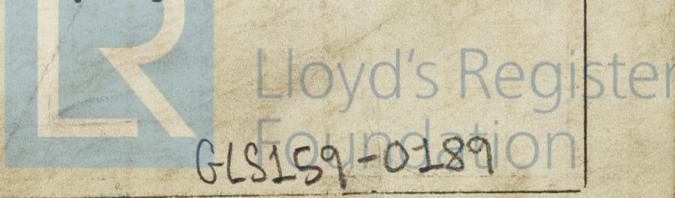
The whole of the recommendations herein detailed have been satisfactorily carried out. I am of opinion the boiler & machinery are now in good & safe working condition and eligible to remain as classed in the Register Book with the additional notification **B.S. 3-90.**

Office or Registration Fee (per Sec. 27).....	£ : :	Fees applied for	
Survey Fee (per Section 28).....	£ : :	<b>14/3</b> 1890	<input checked="" type="checkbox"/>
Special Damage Fee (per Section 28).....	£ <b>2 2</b> 0		
*Certificate (if required) as per margin.....	£ : :	Received by me,	
Travelling Expenses (if chargeable).....	£ : :	<b>14/3</b> 1890	<input checked="" type="checkbox"/>

**Walter Robinson**  
 Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute **FRIDAY 21 MARCH 1890**

Assigned **Deferred - Mr. [unclear] 1/1890**



T. & S. Form No. 9 - Transfer Ink - 300, 19 3/87  
 (The Surveyors are requested not to write on or below the space for Committee's Minutes.)  
 State if a... also see... the hull of the ship... Insert Character of Ship and Machinery precisely as in the Register Book.

9700 lbs.

a new plate fitted entirely with new stays for girders - The top flange of back plate where distorted to be chipped fair on surface before riveting up top plate - All girder stays to be removed & refitted with new studs.

The temporarily riveted patch on back bottom of centre combustion chamber to be taken off for examination of boiler at that part, and a new riveted patch extending over a larger area to be fitted with screwed stays to back of boiler where required.

The boiler to be thoroughly cleaned & scaled internally - filled with clean water and tested by hydraulic pressure to 240 lbs per sq inch.

All the above recommendations have been satisfactorily carried out, and the boiler under hydraulic test was free from leakage.

The engines were overhauled at this time, the high pressure cylinder was lined out, a new piston fitted complete - piston rod turned up in lathe & refitted with new neck rings - new piston valve fitted.

9700 lbs

N.B. - If this Report is copied by Copying Press, especial care must be taken that the copying paper is not so much damped as to spread the ink, or cause it to show through to the other side.

It is submitted that this vessel is eligible to remain as classed and to have its name expunged from the limited list, and to have B.S. 3. 90 recorded when it has been ascertained that the safety valves of the Main boiler were examined and afterwards adjusted under steam.

W.A.

20.3.90



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