

# REPORT ON BOILERS.

Hull Rpt No 31941

No. 31752

Received at London Office

FRI. APR 16 1920

Date of writing Report 1920 When handed in at Local Office 14/4/20 Port of Hull  
 No. in Survey held at Hull Date, First Survey 9/3/20 Last Survey 14/4/1920  
 Reg. Book. 14808 on the Boiler for S. TUG "GUARDSMAN." (Number of Visits 5+4 Gross 102  
 = 9 Tons Net 6)  
 Master By whom built By whom built When built 1905  
 Engines made at By whom made When made 1882  
 Boilers made at Hull By whom made Thos & Holmes Ltd When made 1920  
 Registered Horse Power Owners J. Gray Ltd. Port belonging to

## MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.—Manufacturers of Steel SPENCER & SONS.

(Letter for record 3) Total Heating Surface of Boilers 1050 sq ft Is forced draft fitted no No. and Description of Boilers one cyl. with single boiler Working Pressure 140 Tested by hydraulic pressure to 280 Date of test 24/3/20  
 No. of Certificate 3422 Can each boiler be worked separately yes Area of fire grate in each boiler 31.8 sq ft No. and Description of safety valves to each boiler 2 Spring loaded Area of each valve 6.444 sq in Pressure to which they are adjusted 145 lb  
 Are they fitted with easing gear yes In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 2'-3" Mean dia. of boilers 132" Length 10'-0"  
 Material of shell plates Steel Thickness 3/4" Range of tensile strength 28-32 Are the shell plates welded or flanged no  
 Descrip. of riveting: cir. seams I.R.L. Long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 3/4" Pitch of rivets 4 1/2"  
 Lap of plates or width of butt straps 1 1/2" Per centages of strength of longitudinal joint 88.6% Working pressure of shell by rules 140 Size of manhole in shell 16" x 12" Size of compensating ring 3/4" x 7" No. and Description of Furnaces in each boiler 2 plain Material Steel Outside diameter 3'-3 1/2" Length of plain part 36'-7 1/2" Thickness of plates 3/4" crown 3/4" bottom 3/4" Description of longitudinal joint Welded No. of strengthening rings 1 Working pressure of furnace by the rules 150 Combustion chamber plates: Material Steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 5/8" Pitch of stays to ditto: Sides 9 1/2" x 9 1/2" Back 9 1/2" x 9 1/2" Top 9 1/2" x 9 1/2" stays are fitted with nuts or riveted heads nuts Working pressure by rules 149 Material of stays Steel Diameter at smallest part 1 7/8" Area supported by each stay 90" Working pressure by rules 175 End plates in steam space: Material Steel Thickness 1/2" Pitch of stays 14" x 15" How are stays secured IN & W Working pressure by rules 154 Material of stays Steel Diameter at smallest part 3.03" Area supported by each stay 210" Working pressure by rules 150 Material of Front plates at bottom Steel Thickness 1/2" Material of Lower back plate Steel Thickness 1/2" Greatest pitch of stays 14" x 9 1/2" Working pressure of plate by rules 157 Diameter of tubes 3 1/2" Pitch of tubes 4 3/4" Material of tube plates Steel Thickness: Front 1/2" Back 1/2" Mean pitch of stays 10.6" Pitch across wide water spaces 14" Working pressures by rules 235 WWS Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 7 1/2" x 1 1/2" Length as per rule 28" Distance apart 9 1/2" Number and pitch of Stays in each 2 @ 9 1/2" Working pressure by rules 178 Superheater or Steam chest: how connected to boiler yes Can the superheater be shut off and the boiler worked separately yes Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear yes

**VERTICAL DONKEY BOILER—** No.          Description          Manufacturers of steel           
 Made at          By whom made          When made          Where fixed          Working pressure           
 tested by hydraulic pressure to          Date of test          No. of Certificate          Fire grate area          Description of safety valves           
 No. of safety valves          Area of each          Pressure to which they are adjusted          If fitted with easing gear          If steam from main boilers can enter the donkey boiler          Dia. of donkey boiler          Length          Material of shell plates          Thickness          Range of tensile strength          Descrip. of riveting long. seams          Dia. of rivet holes          Whether punched or drilled          Pitch of rivets           
 Lap of plating          Per centage of strength of joint          Rivets          Working pressure of shell by rules          Thickness of shell crown plates           
 Radius of do.          No. of Stays to do.          Dia. of stays          Diameter of furnace Top          Bottom          Length of furnace           
 Thickness of furnace plates          Description of joint          Working pressure of furnace by rules          Thickness of furnace crown plates          Radius of do.          Stayed by          Diameter of uptake          Thickness of uptake plates           
 Thickness of water tubes         

The foregoing is a correct description,  
 FOR CHARLES D. HOLMES & Co. LTD. Manufacturer.

Dates of Survey while building  
 During progress of work in shops -- 1920 - Mar 9. 12. 19 - 24. Apr 14.  
 During erection on board vessel -- Apr 29. May 27 Jun 1. 7  
 Total No. of visits 5 + 4 = 9.

Is the approved plan of main boiler forwarded herewith yes  
 " " " donkey " "         

W403-0130



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GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

This boiler has been built under Special Survey & the materials & workmanship are good. On completion it was subjected to a hydraulic test of 280 lbs. and was found tight at that pressure.

The boiler is intended for the S. T. G. GUARDSMAN of this port & will be fitted on board in a few months time until then it will be stored under cover.

The boiler is eligible in my opinion to have the record + N.B. with date when the boiler is fitted and secured on board the vessel.

This boiler has been securely fitted in the ship, and the safety valves adjusted to pressure noted on this report.

The Boiler is now eligible in my opinion to have the record + NB-5-20 marked in Red in the Society's Register Book.

6 see last date of visit. Over.

It is submitted that this vessel is eligible for THE RECORD. + NB 6. 20. Subject to the safety valves being readjusted for a working pressure of 130 lbs. at the next boiler cleaning as arranged (see letter 9/8/20)

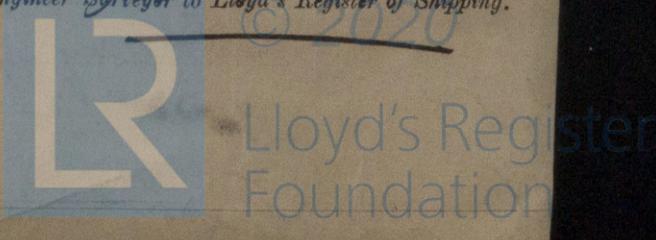
Wp. 130 lbs to be noted

H. 14/8/20

The amount of Entry Fee .. £	:	:	When applied for
Special .. .. . £ 3-10-0	:	:	15/4/20
Donkey Boiler Fee .. .. £	:	:	7/7/20
FITTING ON BOARD	:	:	When received
Travelling Expenses (if any) £	:	:	28/4/20
	:	:	13/10/20
	:	:	22/11/20
	:	:	16/1/20

Mr H. J. Sutherland  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute AUG. 17 1920  
Assigned  
FRI. AUG. 13 1920  
FRI. DEC. 31 1920



Certificate (if required) to be sent to  
(The Surveyors are requested not to write on or below the space for Committee's Minute.)