

REPORT ON BOILERS.

No. 15680.

Port of Greenock.

Received at London Office

WED. 24 NOV 1909

Survey held at Port Glasgow.

Date, first Survey 18th August 1909. Last Survey 13th Nov. 1909.

(Number of Visits 34.)

on the SCREEN STEAMER "THURSBY."

Tons } Gross 496
 } Net 267

Hudson. Built at Belfast By whom built Harland & Wolff When built 1876-2
Made at Belfast By whom made J. Rowan & Sons Ltd? when made 1876.
Made at Port Glasgow. By whom made Glyde Shipbuilding & Eng. Co. Ltd? when made 1909.
Horse Power 81. Owners J. S. Sellers. Port belonging to Liverpool.

TUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.—Manufacturers of Steel Steel Coy of Scotland.

Record S. Total Heating Surface of Boilers 1500 sq. ft. Is forced draft fitted No. No. and Description of Boilers One
Cylindrical Single ended. Working Pressure 90 lbs. Tested by hydraulic pressure to 200 lbs. Date of test 27/9/09.
Capacity 942 Can each boiler be worked separately ✓ Area of fire grate in each boiler 54.4 sq. ft. No. and Description of Grates 2: Street Spring.
Area of each valve 11.04 sq. in. Pressure to which they are adjusted 95 lbs. ✓
Fitted with easing gear Yes ✓ In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler ✓
Distance between boilers or uptakes and bunkers or woodwork 6" Mean dia. of boilers 12'6" Length 10'0"
Material of shell plates Steel. Thickness 7/16" Range of tensile strength 28 to 32 tons Are the shell plates welded or flanged No.
Type of riveting: cir. seams Lap Double long. seams Butt Strap. Diameter of rivet holes in long. seams 13/16" Pitch of rivets 5 3/8" 2 1/8"
Pitch of rivets on width of butt straps 12 3/8" Per centages of strength of longitudinal joint rivets 95.6 Working pressure of shell by plate 86.1
Size of manhole in shell 16" x 12" Size of compensating ring 22" x 27" x 7/16" No. and Description of Furnaces in each boiler None
Material Steel. Outside diameter 44" Length of plain part top 6'4 1/2" Thickness of plates crown 3/8" bottom 5/8"
Type of longitudinal joint Weld. No. of strengthening rings None. Working pressure of furnace by the rules 105 lbs. Combustion chamber material Steel Thickness: Sides 9/16" Back 9/16" Top 9/16" Bottom 3/4" Pitch of stays to ditto: Sides 9" x 9" Back 9 1/4" x 11 1/2"
If stays are fitted with nuts or riveted heads Nuts. Working pressure by rules 100 lbs. Material of stays Steel. Diameter at smallest part 1 1/2" Area supported by each stay 106 sq. in. Working pressure by rules 112 lbs. End plates in steam space: Material Steel Thickness 1 1/8"
How are stays secured By nuts. Working pressure by rules 100 lbs. Material of stays Steel Diameter at smallest part 2 1/8" Area supported by each stay 483 sq. in. Working pressure by rules 110 lbs. Material of Front plates at bottom Steel Thickness 3/32" Material of tube plates Steel Thickness: Front 25/32" Back 11/16" Mean pitch of stays 9 3/8" Pitch across wide plates 14 1/2" Working pressures by rules 104 lbs. 192 lbs. Girders to Chamber tops: Material Steel Depth and thickness of girders 7 1/2" x 13" Length as per rule 19 7/16" Distance apart 10" Number and pitch of Stays in each 2: 9"
Working pressure by rules 159 lbs. Superheater or Steam chest: how connected to boiler None Can the superheater be shut off and the boiler worked Yes
Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet
Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness
Stays 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

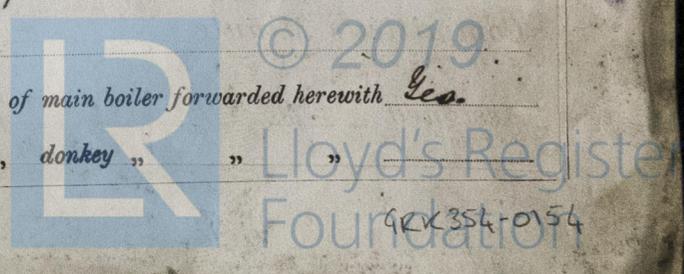
AL DONKEY BOILER—No. None. Description _____ Manufacturers of steel _____
By whom made _____ When made _____ Where fixed _____ Working pressure _____
Tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____ Fire grate area _____ Description of safety valves _____
Area of each _____ Pressure to which they are adjusted _____ If fitted with easing gear _____ If steam from main boilers can enter 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 _____
Per centage of strength of joint Rivets _____ Plates _____ Working pressure of shell by rules _____ Thickness of shell crown plates _____
No. of Stays to do. _____ Dia. of stays _____ Diameter of furnace Top _____ Bottom _____ Length of furnace _____
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 _____
Material of water tubes _____

THE OLYDE SHIPBUILDING & ENGINEERING CO. LIMITED,

The foregoing is a correct description,

John S. Sellers Secretary. Manufacturer.

Progress of work in shops: 1909. Aug. 18. 20. 21. 25. 30. Sept. 6. 7. 14. 15. 16. 17. 20. 22. 24. 27. Oct. 4. 6. 11. 12. 13. 14. 15. 19. 20.
Erection on vessel: Nov. 1. 2. 3. 4. 6. 8. 10. 11. 12. 13.
Total No. of visits 34. Is the approved plan of main boiler forwarded herewith Yes.



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

Boiler:— The new main Boiler has been built under Special Survey and workmanship throughout is good. When completed it was tested by Hydro pressure to 200 lbs per sq. inch and found tight and sound. Its safety valve subsequently adjusted under steam to the pressure herein stated.

Engines:— The Engines were removed from the vessel to the shop and the overhauled and re-erected. A new High pressure Cylinder has been fitted. The cylinders are now 20" and 41" diameter by 28" stroke, 90 lbs working pressure. A new Thrust Block has been supplied and fitted. New Crank. Thrust Propeller shafts have been fitted and the two Intermediate shafts to new ends welded to them on account of defects. See joining report herewith. The sizes of the shafts are as follow:—

Crank shaft	4 1/2"	diameter	✓	✓
Thrust	4 3/4"	"	✓	✓
Intermediate	4"	"	✓	✓
Propeller	8"	"	✓	✓

The Thrust and Propeller shafts are of the diameter required by Rules. The other shafts were approved by the Committee for the modification of work at the diameter originally fitted. A new Steam and Propeller 9'6" dia have been fitted. A new Circulating pump has been fitted, and all other pumps have been overhauled and in good working order. New brasses have been fitted to all journal bearings on the main Engines. A new H.P. piston and LP piston Rod have been fitted. The Condenser has been cleaned, repaired cracked and re-tubed. A new Piston valve and valve spindle fitted. New Quadrant plates have been fitted. A new Air pump bucket have been fitted. A new Circulating pump rod has been fitted. A new Feed pump has been fitted.

On completion of the work the machinery and Boiler were under steam and found to work satisfactorily. They are now in an efficient condition and eligible in our opinion to have records of **N.B. 11,09** and **LMC. 11,09** marked in the Society's Register.

Boiler Request No. 8. attached.

Certificate (if required) to be sent to

The amount of Entry Fee...	£	:	:	When applied for,
Special NEW BOILERS	£ 5	:	:	17/11/1909.
Engines 13-10-	£ 3	:	3	
Donkey Boiler Fee	£	:	:	When received,
Travelling Expenses (if any)	£	:	:	19/11/1909.

Wm R. Austin
 Engineer Surveyor to Lloyd's Register of British and Foreign

Committee's Minute **GLASGOW** 23 NOV. 1909

Assigned **LMC 11,09**
 + **N.B. 11,09**

MACHINERY CERTIFICATE
 NUMBER 13/4/10

Note Cyls. & Blr. pressure
 Note shaft



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L.H.H.
22-11-09