

Messrs Furness Withy & Co S.S. No 289  
Messrs R. Stephenson & Co Boiler No 528

Hpl. No. 12864  
No. 49770

Rpt. 5.

# REPORT ON BOILERS.

Port of Newcastle on Tyne

Received at London Office 10.23 20 MAR 1906

No. in Survey held at Newcastle Date, first Survey July 19 Last Survey Oct 14 1905.  
Reg. Book. on the Shel S.S. "Clan Matheson" (Number of Visits 11)  
Master West Harklewood Built at West Harklewood By whom built Messrs. Furness Withy & Co. Ltd. When built 1905  
Engines made at Donkey By whom made R. Stephenson & Co when made 1905  
Boilers made at Newcastle By whom made R. Stephenson & Co when made 1905  
Registered Horse Power 11 Owners Port belonging to

## MULTITUBULAR BOILERS ~~MAIN, AUXILIARY OR~~ DONKEY. — Manufacturers of Steel John Spencer &

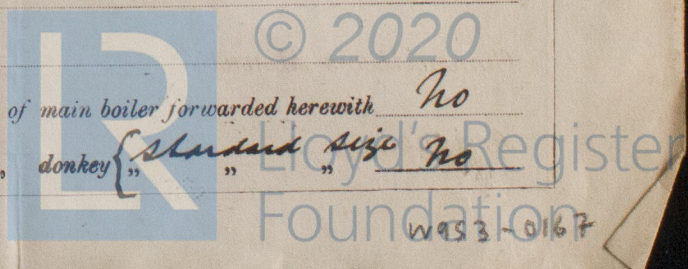
(Letter for record ☒) Total Heating Surface of Boilers 1250  $\phi$  Is forced draft fitted no No. and Description of Boilers One cyl. S end Working Pressure 100 Tested by hydraulic pressure to 200 Date of test 14-10-05  
No. of Certificate 7105 Can each boiler be worked separately ☒ Area of fire grate in each boiler 30  $\phi$  No. and Description of safety valves to each boiler 2 Spring Area of each valve 5.94  $\phi$  Pressure to which they are adjusted 100 lbs  
Are they fitted with easing gear yes In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler no  
Smallest distance between boilers or uptakes and bunkers or woodwork 18" Mean dia. of boilers 11-3 Length 9-1  $\frac{7}{16}$   
Material of shell plates S Thickness  $\frac{11}{16}$  Range of tensile strength  $\frac{28}{32}$  Are the shell plates welded or flanged no  
Descrip. of riveting: cir. seams S & d lap long. seams T & X lap Diameter of rivet holes in long. seams  $\frac{15}{16}$  Pitch of rivets 4  $\frac{1}{4}$   
Lap of plates or width of butt straps 6  $\frac{7}{8}$  Per centages of strength of longitudinal joint rivets 79 Working pressure of shell by rules 104 Size of manhole in shell 16 x 12 Size of compensating ring 7  $\frac{1}{2}$  x  $\frac{11}{16}$  No. and Description of Furnaces in each boiler Two plain Material S Outside diameter 36  $\frac{5}{8}$  Length of plain part 70 Thickness of plates crown  $\frac{1}{2}$  bottom  $\frac{1}{2}$   
Description of longitudinal joint d strap No. of strengthening rings  $\frac{1}{2}$  Working pressure of furnace by the rules 104 Combustion chamber plates: Material S Thickness: Sides  $\frac{9}{16}$  Back  $\frac{9}{16}$  Top  $\frac{9}{16}$  Bottom  $\frac{11}{16}$  Pitch of stays to ditto: Sides 8  $\frac{1}{2}$  x 9  $\frac{1}{2}$  Back 8  $\frac{1}{2}$  x 8  $\frac{3}{4}$   
Top 9  $\frac{1}{2}$  x 9  $\frac{1}{2}$  If stays are fitted with nuts yes riveted heads yes Working pressure by rules 108 Material of stays Iron Diameter at smallest part 1-5 Area supported by each stay 90.25 Working pressure by rules 100 End plates in steam space: Material S Thickness 23/32  
Pitch of stays 15 x 15 How are stays secured d & l Working pressure by rules 108 Material of stays Iron Diameter at smallest part 3-26  
Area supported by each stay 225 Working pressure by rules 108 Material of Front plates at bottom S Thickness 23/32 Material of Lower back plate S Thickness 23/32 Greatest pitch of stays as per plan Working pressure of plate by rules 100 Diameter of tubes 3  
Pitch of tubes 4  $\frac{1}{4}$  x 4  $\frac{1}{4}$  Material of tube plates S Thickness: Front 23/32 Back  $\frac{11}{16}$  Mean pitch of stays 10  $\frac{5}{8}$  Pitch across wide water spaces 13  $\frac{1}{2}$  Working pressures by rules 101 Girders to Chamber tops: Material S Depth and thickness of girder at centre 6  $\frac{1}{2}$  x 13  $\frac{3}{8}$  Length as per rule 25 Distance apart 9  $\frac{1}{2}$  Number and pitch of Stays in each 1-9  $\frac{1}{2}$   
Working pressure by rules 104 Superheater or Steam chest: how connected to boiler ☒ Can the superheater be shut off and the boiler worked separately ☒ 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 ☒

**VERTICAL DONKEY BOILER** — No.            Description            Manufacturers of steel             
Made at            By whom made            When made            Where fixed             
Working pressure            tested by hydraulic pressure to            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             
Stayed by            Diameter of uptake            Thickness of uptake plates            Thickness of water tubes           

The foregoing is a correct description,  
For ROBERT STEPHENSON & CO. LIMITED. Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1905 July 19, Aug. 28, 16, 21, 28 Sep. 8, Oct. 26, 1905  
During erection on board vessel - - -  
Total No. of visits 11

Is the approved plan of main boiler forwarded herewith no  
" " " donkey no





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

The material & workmanship is good.  
The boiler has been built under special survey.  
This boiler has been sent to West Hartlepool  
L.H. Heck.

Certificate (if required) to be sent to

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

The amount of Entry Fee...	£	:	:	When applied for,
Special ... ..	£	:	:	Oct 26 1905
Donkey Boiler Fee ...	£	2	2	When received,
Travelling Expenses (if any) £	:	:	:	Nov 15 1905

K.L.H.

John H Heck & Thos. L. Thornton  
Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

TUES. 20 MAR 1906

Assigned



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Foundation