

# REPORT ON BOILERS.

No. 45469

Date of writing Report 26 June 1926 When handed in at Local Office 26.6.1926 Received at London Office 30 JUN 1926

No. in Survey held at Glasgow.

Port of Glasgow.

Date, First Survey 3rd Mar 1926 Last Survey 22.6.1926

(Number of Visits 33) Tons <sup>Gross</sup> <sub>Net</sub>

Master \_\_\_\_\_ Built at \_\_\_\_\_ By whom built \_\_\_\_\_ Yard No. \_\_\_\_\_ When built \_\_\_\_\_

Engines made at Leith By whom made John Crum & Sonville L. Engine No. \_\_\_\_\_ When made \_\_\_\_\_

Boilers made at Glasgow. By whom made The Firth S.B. & F.C. (1921) L. Boiler No. 1868 When made 1926

Nominal Horse Power 147 Owners \_\_\_\_\_ Port belonging to \_\_\_\_\_

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel The Steel Co. of Scotland Ltd. (Letter for Record S.)

Total Heating Surface of Boilers 2200 sq ft Is forced draught fitted \_\_\_\_\_ Coal or Oil fired \_\_\_\_\_

No. and Description of Boiler One Cyl. Mult. Single ended Working Pressure 200 lb

Tested by hydraulic pressure to 350 lb Date of test 22.6.26 No. of Certificate 17152 Can each boiler be worked separately \_\_\_\_\_

Area of Firegrate in each Boiler 64.5 sq ft No. and Description of safety valves to each boiler \_\_\_\_\_

Area of each set of valves per boiler per Rule Pressure to which they are adjusted \_\_\_\_\_ Are they fitted with easing gear \_\_\_\_\_

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler \_\_\_\_\_

Smallest distance between boilers or uptakes and bunkers or woodwork \_\_\_\_\_ Is oil fuel carried in the double bottom under boilers \_\_\_\_\_

Smallest distance between shell of boiler and tank top plating \_\_\_\_\_ Is the bottom of the boiler insulated \_\_\_\_\_

Largest internal dia. of boiler 15'-6" Length 10'-6" Shell plates: Material S. Tensile strength 28/32 T.

Thickness 1 13/32" Are the shell plates welded or flanged No. Description of riveting: circ. seams end LDR

Diag. seams D.B.S./T.R. Diameter of rivet holes in circ. seams 17/16" long. seams 17/16" Pitch of rivets 4 1/4"

Percentage of strength of circ. end seams plate 66.2 rivets 44.6 Percentage of strength of circ. intermediate seam plate 85.25 rivets 91.87

Percentage of strength of longitudinal joint plate 85.25 rivets 91.87 combined 88.53 Working pressure of shell by Rules 200.6 lb

Thickness of butt straps outer 1 1/8" inner 1 1/4" No. and Description of Furnaces in each Boiler 3. Morrison

Material S. Tensile strength 26/30 T. Smallest outside diameter 47 5/16"

Length of plain part top bottom Thickness of plates crown 2 1/32" bottom 2 1/32" Description of longitudinal joint Weld.

Dimensions of stiffening rings on furnace or c.c. bottom None. Working pressure of furnace by Rules 203 lb

End plates in steam space: Material S. Tensile strength 26/30 T. Thickness 1 1/8" Pitch of stays 19 x 15"

How are stays secured D.N. Working pressure by Rules 204 lb Thickness 1 1/8" & 7/8"

End plates: Material front S. back S. Tensile strength 26/30 T. Working pressure front 222 lb back 222 lb

Can pitch of stay tubes in nests 1 7/8 x 9/2" Pitch across wide water spaces 14" Working pressure front 222 lb back 222 lb

Orders to combustion chamber tops: Material S. Tensile strength 28/32 T. Depth and thickness of girder \_\_\_\_\_

Centre 8 x 1 1/2" Length as per Rule 29" Distance apart 8 3/4" No. and pitch of stays \_\_\_\_\_

Each 2 @ 9 1/4" Working pressure by Rules 228 lb Combustion chamber plates: Material S.

Usible strength 26/30 T. Thickness: Sides 1 1/16" Back 1 1/16" Top 1 1/16" Bottom 7/8"

Ch of stays to ditto: Sides 9 3/4 x 8 1/4" Back 9 3/4 x 8 1/4" Top 9 3/4 x 8 1/4" Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules 203 lb Front plate at bottom: Material S. Tensile strength 26/30 T.

Thickness 7/8" Lower back plate: Material S. Tensile strength 26/30 T. Thickness 7/8"

Ch of stays at wide water space 14 x 8 1/4" Are stays fitted with nuts or riveted over Nuts

Working Pressure 237 lb Main stays: Material S. Tensile strength 28/32 T.

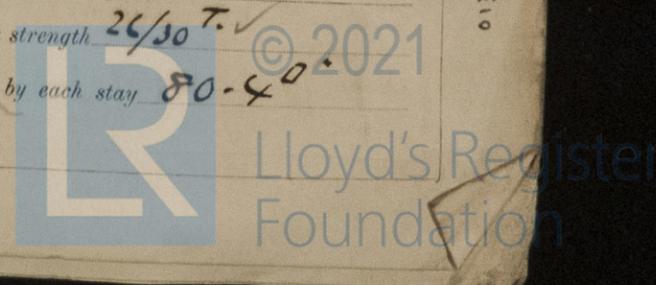
At body of stay, 27/8" No. of threads per inch 6 Area supported by each stay 285 sq in

Over threads 27/8" Screw stays: Material S. Tensile strength 26/30 T.

Working pressure by Rules 214 lb No. of threads per inch 9 Area supported by each stay 80.4 sq in

At turned off part, 1 3/4" Working pressure by Rules 214 lb

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Working pressure by Rules 226 u Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, 5/8 or Over threads 17/8 ✓

No. of threads per inch 9 ✓ Area supported by each stay 980 Working pressure by Rules 217 u

Tubes: Material I. External diameter { Plain 3 1/2 Stay 3 1/2 Thickness { 8 W.G. 5/16, 3/8 No. of threads per inch 9

Pitch of tubes 4 3/4 x 4 3/4 Working pressure by Rules 204 u. Manhole compensation: Size of opening in shell plate 16 1/4 x 12 1/4 Section of compensating ring 17 x 1 3/32 ✓ No. of rivets and diameter of rivet holes 32 - 1 7/16 ✓

Outer row rivet pitch at ends 10 ✓ Depth of flange if manhole flanged - Steam Dome: Material None

Tensile strength \_\_\_\_\_ Thickness of shell \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_

Diameter of rivet holes \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Percentage of strength of joint { Plate Rivets \_\_\_\_\_

Internal diameter \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_ Thickness of crown \_\_\_\_\_ No. and diameter of stays \_\_\_\_\_ Inner radius of crown \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_

How connected to shell \_\_\_\_\_ Size of doubling plate under dome \_\_\_\_\_ Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell \_\_\_\_\_

Type of Superheater \_\_\_\_\_ Manufacturers of { Tubes Steel castings \_\_\_\_\_

Number of elements \_\_\_\_\_ Material of tubes \_\_\_\_\_ Internal diameter and thickness of tubes \_\_\_\_\_

Material of headers \_\_\_\_\_ Tensile strength \_\_\_\_\_ Thickness \_\_\_\_\_ Can the superheater be shut off and the boiler be worked separately \_\_\_\_\_

Area of each safety valve \_\_\_\_\_ Is a safety valve fitted to every part of the superheater which can be shut off from the boiler \_\_\_\_\_

Rules \_\_\_\_\_ Pressure to which the safety valves are adjusted \_\_\_\_\_ Working pressure as per tubes \_\_\_\_\_ and after assembly in place \_\_\_\_\_ Hydraulic test pressure: \_\_\_\_\_ Are drain cocks or valves fitted to free the superheater from water where necessary \_\_\_\_\_

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with \_\_\_\_\_

The foregoing is a correct description,  
 FOR THE FORTH SHIPBUILDING & ENGINEERING CO. (1921)  
 (LINDSAY BURNETT'S BOILER WORKS) W. L. Lane Manufacturer.

Dates of Survey while building { During progress of work in shops - - } 1926 Mar 3-6-10-12-16-19-23-25-29 Are the approved plans of boiler and superheater forwarded herewith Yes.  
 { During erection on board vessel - - - } Apr 1-6-9-13-15-19-22-28-30 May 4-7-11  
 { } June 4-8-11-13-21-22 Total No. of visits 33

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been constructed under special survey in accordance with the Rules. The materials and workmanship employed in its manufacture are sound and good. It will be fitted on board the Wand & Leith

Survey Fee ... £ 14:14:0 When applied for, 29 JUN 1926  
 Travelling Expenses (if any) £ - When received, 30.6.1926  
W. Lane  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 29 JUN 1926

Assigned TRANSMIT TO LONDON

FRI. 17 SEP 1926

See Lth. L.R. No. 16999



L.R. 26.6.26.