

REPORT ON BOILERS.

No. 87192

Received at London Office 28 MAY 1931

Date of writing Report 19 22nd May 1931 When handed in at Local Office 22nd May 1931 Port of NEWCASTLE-ON-TYNE.

No. in Survey held at Scotswood Date, First Survey 3rd March Last Survey 20th May 1931
Reg. Book. 74830 on the Steel Se. "JOLLY CHARLES" (Number of Visits 30, Gross 637, Net 285 Tons)

Master Lowestoft Built at Lowestoft By whom built J. Chambers Ltd Yard No. ✓ When built 1920.
Engines made at So. Shields By whom made G.T. Grey & Co Ltd Engine No. ✓ When made 1920
Boilers made at Scotswood By whom made Sir W.G. Armstrong Whitworth & Co (Engo) Ltd Boiler No. 9144 When made 1931
Nominal Horse Power 108 Owners Leopold Walford Shipping Ltd (Engo) Port belonging to London.

MULTITUBULAR BOILERS—MAIN, ~~AUXILIARY OR DONKEY~~

Manufacturers of Steel Columbian Ldg. Glasgow (Plate) Brownlie & Co Ltd (Donkey) (Letter for Record 0)

Total Heating Surface of Boilers 1940 sq ft. Is forced draught fitted No. Coal or Oil fired Coal

No. and Description of Boilers One S.E. Multitubular. Working Pressure 180 lb/sq in

Tested by hydraulic pressure to 320 lb/sq in Date of test 23.4.31 No. of Certificate 548 Can each boiler be worked separately ✓

Area of Firegrate in each Boiler 61 sq ft No. and Description of safety valves to each boiler 2 Spring loaded (High Lift)

Area of each set of valves per boiler per Rule $3 \times 124 = 630$ Pressure to which they are adjusted 180 lb/sq in Are they fitted with easing gear yes

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

Smallest distance between boilers 15" 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 yes

Largest internal dia. of boilers 14' - 3 1/16" Length 11' - 0 1/4" Shell plates: Material Steel Tensile strength 29-33 tons

Thickness 1 5/32" Are the shell plates welded or flanged No. Description of riveting: circ. seams 3.73" end D.R. Cap. inter. 8 9/16"

long. seams T.R. Double Butt Straps Diameter of rivet holes in 1 1/4" Pitch of rivets 8 9/16"

Percentage of strength of circ. end seams plate 66.4% rivets 45.0% Percentage of strength of circ. intermediate seam plate 85.3% rivets 92.0% combined 89.2% Working pressure of shell by Rules 183 lb/sq in

Thickness of butt straps outer 2 9/32" inner 1 1/32" No. and Description of Furnaces in each Boiler 3 Beighton Section.

Material Steel Tensile strength 26-30 tons Smallest outside diameter 3' - 6 1/2"

Length of plain part top ✓ Thickness of plates crown 1 7/32" bottom 1 7/32" Description of longitudinal joint Welded.

Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 180.5 lb/sq in

End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 1 7/32" Pitch of stays 19" x 19 1/4"

How are stays secured Nuts & Washers inside & outside Working pressure by Rules 189 lb/sq in

Tube plates: Material front Steel back Steel Tensile strength 26-30 tons Thickness 1 1/16" Working pressure front 199 lb/sq in back 203 lb/sq in

Mean pitch of stay tubes in nests 10 3/8" Pitch across wide water spaces 14 1/4"

Girders to combustion chamber tops: Material Steel Tensile strength 28-32 tons Depth and thickness of girder 8 1/2" x 13 3/8"

at centre 8 1/2" x 13 3/8" Length as per Rule 2' - 8" Distance apart 8 1/4" No. and pitch of stays 2 @ 10"

Working pressure by Rules 203 lb/sq in Combustion chamber plates: Material Steel Tensile strength 26-30 tons Thickness: Sides 1 1/16" Back 3 1/32" Top 1 1/16" Bottom 1 1/16"

Pitch of stays to ditto: Sides 10" x 8 1/4" Back 9" x 9" Top 10" x 8 1/4" Are stays fitted with nuts or riveted over nutted.

Working pressure by Rules 185 lb/sq in Front plate at bottom: Material Steel Tensile strength 26-30 tons Thickness 1 1/16"

Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 2 9/32"

Pitch of stays at wide water space 14 1/4" x 9" Are stays fitted with nuts or riveted over nutted

Working Pressure 237 lb/sq in Main stays: Material Steel Tensile strength 28-32 tons

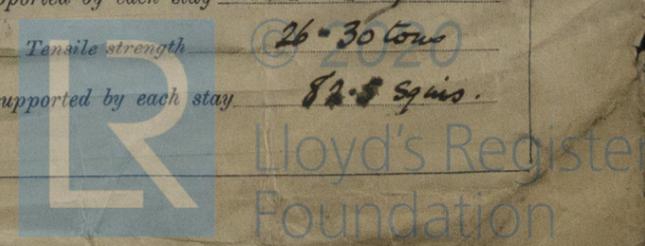
Diameter 3" No. of threads per inch 6 Area supported by each stay 368.75 sq ins

Working pressure by Rules 183 lb/sq in Screw stays: Material Steel Tensile strength 26-30 tons

Diameter 1 5/8" No. of threads per inch 9 Area supported by each stay 82.8 sq ins.

If not, state whether, and when, one will be sent? Is a Report also sent on the Hull of the ship? [2m.12.28.—Copyright Ink.]

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Working pressure by Rules $183 \frac{1}{2} / 0$ Are the stays drilled at the outer ends *no.* Margin stays: Diameter $1 \frac{1}{8} \times 2$
 No. of threads per inch *9.* Area supported by each stay $104.6 \text{ sq in} \times 108.6 \text{ sq in}$ Working pressure by Rules $203 \frac{1}{2} / 0 \times 219 \frac{1}{2} / 0$
 Tubes: Material *Steel* External diameter $3 \frac{1}{4}$ Thickness 8 W.G. No. of threads per inch *9.*
 Pitch of tubes $4 \frac{1}{2}$ Working pressure by Rules *Plain 230 lb/0 & Stay 206 lb/0* Manhole compensation: Size of opening in
 shell plate $21" \times 17"$ Section of compensating ring $19 \frac{1}{2} \times 15 \frac{1}{2}$ No. of rivets and diameter of rivet holes $36 @ 1 \frac{1}{16}$
 Outer row rivet pitch at ends $8 \frac{3}{4} \times 4"$ Depth of flange if manhole flanged $3 \frac{3}{8}$ 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
 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 *None.* Manufacturers of Tubes
 Number of elements Material of tubes Steel castings
 Material of headers Tensile strength Thickness Can the superheater be shut off and
 the boiler be worked separately Is a safety valve fitted to every part of the superheater which can be shut off from the boiler
 Area of each safety valve Are the safety valves fitted with easing gear Working pressure as per
 Rules Pressure to which the safety valves are adjusted Hydraulic test pressure:
 tubes, castings and after assembly in place Are drain cocks or valves fitted
 to free the superheater from water where necessary
 Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with *Yes.*

The foregoing is a correct description,
 FOR *A. Dewey* Manufacturer.
 SIR W. & ARTHUR WHITWORTH & COMPANY (ENGINEERS) LIMITED

Dates of Survey ¹⁹³¹
 During progress of work in shops - Mar. 3, 5, 6, 10, 12, 16, 18, 24, 26, 27, 31, Apr. 1.
 During erection on board vessel - 7, 13, 15, 16, 17, 20, 22, 23, 24, May 1, 4, 8, 11, 12, 14, 18, 19, 20.
 Are the approved plans of boiler and superheater forwarded herewith *Yes.*
 (If not state date of approval.)
 Total No. of visits *30.*

Is this Boiler a duplicate of a previous case *no.* If so, state Vessel's name and Report No. *✓*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *The Boiler has been built under Special Survey & in accordance with the Society's Rules & approved plans. The material and workmanship are sound and good. Hydraulically tested as per Rules & found satisfactory. The boiler was efficiently installed on board & its safety valves adjusted under steam to the approved working pressure.*

Survey Fee ... £ *13* : - : - When applied for, *27 MAY 1931*
 Travelling Expenses (if any) £ : : : When received, *6. 6 1931*

L. Plasket
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *TUE. 9 JUN 1931*

Assigned *See Minute on New Cy No 87191*

