

REPORT ON BOILERS.

No. 10.923

Date of writing Report 19 When handed in at Local Office 26th Aug 1932 Port of Belfast
 Received at London Office 29 AUG 1932
 No. in Reg. Book. Survey held at Belfast Date, First Survey Last Survey 19
 60439 on the Steel Sc. "CORABANK" (Number of Visits) Gross 9000 Tons Net
 Master Built at Belfast By whom built Workman, Lank (1928) Ltd. Yard No. 516. When built 1932.
 Engines made at Belfast By whom made Workman, Lank (1928) Ltd. Engine No. 516. When made 1932.
 Boilers made at Belfast By whom made Workman, Lank (1928) Ltd. Boiler No. 516. When made 1932.
 Nominal Horse Power 997 Owners Bank Line Ltd. Port belonging to Belfast.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Baldwins Ltd. Dorman, Long & Co. Ltd.
 Total Heating Surface of Boilers No 1 boiler 1818 sq. ft. No 2 boiler 1190 sq. ft. + 1205 sq. ft. (exhaust) Is forced draught fitted Yes.
 No. and Description of Boilers Two 3.6. Multitub. (Letter for Record S)
 Tested by hydraulic pressure to 275 lbs Date of test 15/8/30. No. of Certificate 951. Can each boiler be worked separately Yes.
 Area of Firegrate in each Boiler No. and Description of safety valves to each boiler Two Improved H.L. Spring loaded.
 Area of each set of valves per boiler per Rule 16.50 sq. ft. as fitted 9.82 sq. ft. Pressure to which they are adjusted 150 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 main boilers.
 Smallest distance between boilers or uptakes and bunkers or woodwork None in vicinity Is oil fuel carried in the double bottom under boilers Boilers on upper deck.
 Smallest distance between shell of boiler and tank for plating Is the bottom of the boiler insulated Yes.
 Largest internal dia. of boilers 12'-10 1/2" Length 11'-6" Shell plates: Material Steel Tensile strength 28/32 tons.
 Thickness 29/32" Are the shell plates welded or flanged No. Description of riveting: circ. seams end Double.
 long. seams Tube riveted DB straps. Diameter of rivet holes in circ. seams 1 1/2" inter. 3.0514" Pitch of rivets 6 3/8".
 Percentage of strength of circ. end seams plate 66.21% rivets 49.9% Percentage of strength of circ. intermediate seam plate rivets
 Percentage of strength of longitudinal joint plate 85.8% rivets 86.1% combined 88.7% Working pressure of shell by Rules 152.7 lbs/sq. in.
 Thickness of butt straps outer 1 1/16" inner 1 3/16" No. and Description of Furnaces in each Boiler 3 Deighton.
 Material Steel Tensile strength 26/30 tons. Smallest outside diameter 38".
 Length of plain part top bottom Thickness of plates crown 1/2" bottom 1/2" Description of longitudinal joint welded.
 Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 189.4 lbs/sq. in.
 End plates in steam space: Material Steel Tensile strength 26/30 tons. Thickness 1 1/16" Pitch of stays 19x17".
 How are stays secured Double nuts. Working pressure by Rules 160.9 lbs/sq. in.
 Tube plates: Material front back Steel Tensile strength 26/30 tons. Thickness 3/8" Working pressure front 157 lbs/sq. in. back 230 lbs/sq. in.
 Mean pitch of stay tubes in nests 9.35" Pitch across wide water spaces No 1 boiler 13 1/2" No 2 boiler 13 3/8".
 Girders to combustion chamber tops: Material Steel Tensile strength 28/32 tons. Depth and thickness of girder
 at centre 8" - 1 1/2" Length as per Rule 2'-7 9/16" Distance apart 9 1/2" No. and pitch of stays
 in each 3 - 7" Working pressure by Rules 155 lbs/sq. in. Combustion chamber plates: Material Steel.
 Tensile strength 26/30 tons. Thickness: Sides 9/16" Back 1 1/16" Top 9/16" Bottom 1 1/16".
 Pitch of stays to ditto: Sides 8 1/8 x 7 7/16" Back 8 x 7 3/4" Top 9 1/2 x 7" Are stays fitted with nuts or riveted over stays fitted with nuts other back stays riveted over.
 Working pressure by Rules 168.5. Front plate at bottom: Material Steel Tensile strength 26/30 tons.
 Thickness 7/8" Lower back plate: Material Steel Tensile strength 26/30 tons. Thickness 1 1/16".
 Pitch of stays at wide water space 13 1/2" Are stays fitted with nuts or riveted over marginal stays fitted with nuts.
 Working Pressure 222 lbs/sq. in. Main stays: Material Steel Tensile strength 28/32 tons.
 Diameter At body of stay, or over threads 2 3/4" No. of threads per inch 6 Area supported by each stay 323 sq. ins.
 Working pressure by Rules 170.9 lbs/sq. in. Screw stays: Material Steel Tensile strength 26/30 tons.
 Diameter At turned off part, or over threads 1 3/8" to 1 3/4" No. of threads per inch 9 Area supported by each stay 62 sq. ins.

Working pressure by Rules 163.3 lbs Are the stays drilled at the outer ends No Margin stays: Diameter ^{At turned off part} 1 5/8" ^{or} 1 1/2"
 No. of threads per inch 9 Area supported by each stay 83.31 sq. ins. Working pressure by Rules 182.7 lbs
 Tubes: Material Iron External diameter ^{Plain} 2 1/2" ^{Stay} 2 1/2" Thickness ⁸⁴⁶ 5 1/8" No. of threads per inch 9
 Pitch of tubes 3 3/4" x 3 5/8" Working pressure by Rules Plain 300 lbs Stay 243 lbs Manhole compensation: Size of opening in
 shell plate 15 x 19" Section of compensating ring 32 1/4" x 32 5/8" x 39" No. of rivets and diameter of rivet holes 42 - 1 1/2"
 Outer row rivet pitch at ends 7 1/4" Depth of flange if manhole flanged 3 1/4" Steam Dome: Material ✓
 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 ✓ 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 ✓

The foregoing is a correct description,
 pro WORKMAN CLARK (1928) LIMITED,
J. Cunningham Secretary. Manufacturer.

Dates of Survey ^{During progress of} work in shops - -
^{while} building ^{During erection on} board vessel - -
 Are the approved plans of boiler and superheater forwarded herewith
 (If not state date of approval.)
 Total No. of visits ✓

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.)

These boilers have been constructed under special survey to an approved design. The materials and workmanship are sound and good. The boiler were subjected to hydraulic test in accordance with the Rules and have been efficiently fastened in the vessel. The safety valves have been adjusted to 150 lbs. under steam.

Survey Fee ... £ See machinery report When applied for, 19
 Travelling Expenses (if any) £ See machinery report When received, 19

John. K. Williams.
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 9 SEP 1932

Assigned See F.B. Rpt



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