

REPORT ON BOILERS.

No. 10492

Received at London Office 2 NOV 1930

Date of writing Report

1930

When handed in at Local Office

1-11-

1930

Port of

Belfast.

No. in Reg. Book.

Survey held at

Belfast.

Date, First Survey

Last Survey

1930

91489 on the Steel Sc "MAVIS"

(Number of Visits)

Gross 900

Tons

Net

Master _____ Built at Belfast. By whom built Workman, Lelack (1928) Ltd Yard No. 520 When built 1930.
 Engines made at Belfast. By whom made Workman, Lelack (1928) Ltd. Engine No. 520. When made 1930.
 Boilers made at Belfast. By whom made Workman, Lelack (1928) Ltd. Boiler No. 520. When made 1930.
 Nominal Horse Power 189.2. Owners General Steam Navigation Co. Ltd. Port belonging to London.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Baldwins Ltd. (Letter for Record S.)
 Total Heating Surface of Boilers 3400 sq ft Is forced draught fitted No. Coal or Oil fired Coal.
 No. and Description of Boilers Two, 58, cyl, Multa. Working Pressure 200 lbs sq in.
 Tested by hydraulic pressure to 350 lbs sq in. Date of test 28/8/30. No. of Certificate 952. Can each boiler be worked separately Yes.
 Area of Firegrate in each Boiler 51.25. No. and Description of safety valves to each boiler 2 - Blackburns Improved High Lift
 Area of each set of valves per boiler per Rule 9.880 as fitted 6.2820 Pressure to which they are adjusted 200 lbs 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 Yes.
 Smallest distance between boilers or uptakes and bunkers or woodwork 15" Is oil fuel carried in the double bottom under boilers Yes.
 Smallest distance between shell of boiler and tank top plating 15" Is the bottom of the boiler insulated Yes.
 Largest internal dia. of boilers 13'-9". Mean Length 10'-6". Shell plates: Material Steel. Tensile strength 28/32.
 Thickness 1 1/4" Are the shell plates welded or flanged No. Description of riveting: circ. seams end double.
 long. seams Double rivetted DBS. Diameter of rivet holes in circ. seams 1 3/32" Pitch of rivets 3.627"
 Percentage of strength of circ. end seams plate 63.9% rivets 46.7% Percentage of strength of circ. intermediate seam plate 85.8% rivets 85.9%
 Percentage of strength of longitudinal joint combined 88.8% Working pressure of shell by Rules 201.1 lbs sq in.
 Thickness of butt straps outer 3 1/32" inner 1 3/32" No. and Description of Furnaces in each Boiler Three, Deighton
 Material Steel. Tensile strength 26/30. Smallest outside diameter 41 5/32"
 Length of plain part top 37" bottom 64" Thickness of plates crown 37" bottom 64" Description of longitudinal joint Welded.
 Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 204.4 lbs sq in.
 End plates in steam space: Material Steel. Tensile strength 26/30. Thickness 1 5/16" Pitch of stays 20 x 19 1/2"
 How are stays secured Double nuts. Working pressure by Rules 206.8 lbs sq in.
 Tube plates: Material front Steel. back Steel. Tensile strength 26/30. Thickness 1"
 Mean pitch of stay tubes in nests 9 3/4" Pitch across wide water spaces 14 1/2" Working pressure front 248.6 lbs sq in. back 210 lbs sq in. (comp)
 Girders to combustion chamber tops: Material Steel. Tensile strength 28/32. Depth and thickness of girder at centre 8 1/4 x 1 1/2"
 Length as per Rule 31 19/32" Distance apart 8" No. and pitch of stays in each 2 - 9"
 Working pressure by Rules 200 lbs sq in. Combustion chamber plates: Material Steel.
 Tensile strength 26/30. Thickness: Sides 3 1/32" Back 2 1/32" Top 2 1/32" Bottom 2 1/32"
 Pitch of stays to ditto: Sides 8 x 9" Back 8 1/2 x 8 3/8" Top 8 x 9" Are stays fitted with nuts or riveted over nuts.
 Working pressure by Rules 210.7 lbs sq in. Front plate at bottom: Material Steel. Tensile strength 26/30.
 Thickness 1" Lower back plate: Material Steel. Tensile strength 26/30. Thickness 1 1/8"
 Pitch of stays at wide water space 14 1/4 x 8 1/2" Are stays fitted with nuts or riveted over nuts.
 Working Pressure 290 lbs sq in. Main stays: Material Steel. Tensile strength 28/32.
 Diameter At body of stay, 3 1/4" No. of threads per inch 6 Area supported by each stay 390 sq in.
 Working pressure by Rules 206.3 lbs sq in. Screw stays: Material Steel. Tensile strength 26/30.
 Diameter At turned off part, 1 5/8" No. of threads per inch 9 Area supported by each stay 71.20 sq in.



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Working pressure by Rules 215.7 lbs Are the stays drilled at the outer ends No. Margin stays: Diameter { At turned off part, or Over threads 1 3/4" & 1 7/8"
 No. of threads per inch 9 Area supported by each stay 102 sq" Working pressure by Rules 209 lbs
 Tubes: Material Iron External diameter { Plain 3 1/2" Stay 3 1/2" Thickness { No. 8 W.G. 5/16" No. of threads per inch 9
 Pitch of tubes 4 5/8" x 4 3/4" Working pressure by Rules 215 lbs Manhole compensation: Size of opening in shell plate 15 x 9" Section of compensating ring 30 3/8" x 33 3/4" x 1 1/4" No. of rivets and diameter of rivet holes 36 - 1 1/4"
 Outer row rivet pitch at ends 8 7/8" 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
 How connected to shell Inner radius of crown Working pressure by Rules
 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
 Number of elements Material of tubes Steel castings
 Material of headers Tensile strength Internal diameter and thickness of tubes
 the boiler be worked separately Thickness Can the superheater be shut off and
 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, 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

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 good. They were subjected to hydraulic test in accordance with the Rules and were efficiently fastened on board the vessel. The safety valves were adjusted to 200 lbs under steam.

Survey Fee ... £ See Machinery report: When applied for, 192
 Travelling Expenses (if any) £ When received, 192

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

Committee's Minute DEC. 11 NOV 1930

Assigned

See other report



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