

REPORT ON BOILERS.

-5 NOV 1930

Received at London Office

Date of writing Report 192 When handed in at Local Office 3-11-1930 Port of BELFAST

No. in Survey held at BELFAST Date, First Survey Last Survey 192

90352 on the STEEL SC. EBANO (Number of Visits) (Gross Tons) (Net Tons)

Master Built at BELFAST By whom built HARLAND AND WOLFF LD. Yard No. 899 When built 1930

Engines made at BELFAST By whom made HARLAND AND WOLFF LD. Engine No. 899 When made 1930

Boilers made at BELFAST By whom made HARLAND AND WOLFF LD. Boiler No. 899 When made 1930

Nominal Horse Power 229 Owners Ebano Oil Co. Ltd. (S. Wein Co. Ltd. Mgrs.) Port belonging to London.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel David Colville & Sons Ltd. (Letter for Record S.)

Total Heating Surface of Boilers 3880 \square 2SB Is forced draught fitted Yes Coal or Oil fired Oil

No. and Description of Boilers Two single-ended Cylindrical Working Pressure 180 lbs. \square

Tested by hydraulic pressure to 320 lbs. Date of test 12-15 May 1930 No. of Certificate 3498950 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler Two Spring-loaded Improved high lift.

Area of each set of valves per boiler per Rule 150 \square as fitted 9.8 \square Pressure to which they are adjusted 180 lbs. 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 or uptakes and bunkers or woodwork 20" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and ^{FLOOR} tank top plating 14" Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 14'-0 $\frac{1}{16}$ " MEAN Length 10'-6" Shell plates: Material Steel Tensile strength 29-33 TONS \square

Thickness 1 $\frac{5}{32}$ " Are the shell plates welded or flanged No Description of riveting: circ. seams ^{end} double _{inter.} $\frac{3}{16}$ "

long. seams kettle d.t.s. Diameter of rivet holes in ^{circ. seams} 1 $\frac{1}{4}$ " _{long. seams} 1 $\frac{1}{4}$ " Pitch of rivets $\frac{8}{8}$ "

Percentage of strength of circ. end seams ^{plate} 64.7 _{rivets} 46.6 Percentage of strength of circ. intermediate seam ^{plate} _{rivets} $\frac{3}{16}$ "

Percentage of strength of longitudinal joint ^{plate} 85.1 _{rivets} 94.2 _{combined} 89.0 Working pressure of shell by Rules 186.6 lbs.

Thickness of butt straps ^{outer} 29 _{inner} 32 $\frac{1}{16}$ " No. and Description of Furnaces in each Boiler Three Motion 3 cf.

Material Steel Tensile strength 26-30 TONS \square Smallest outside diameter 40 $\frac{3}{8}$ "

Length of plain part ^{top} _{bottom} Thickness of plates ^{crown} 9" _{bottom} $\frac{9}{16}$ " Description of longitudinal joint weld

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 203 lbs.

End plates in steam space: Material Steel Tensile strength 26-30 TONS \square Thickness 1 $\frac{1}{8}$ " Pitch of stays 17 $\frac{1}{2}$ " x 20 $\frac{1}{2}$ "

How are stays secured double nuts and washers and screws into end plates Working pressure by Rules 182 lbs.

Tube plates: Material ^{front} Steel _{back} Steel Tensile strength ^{front} 26-30 TONS \square _{back} 26-30 TONS \square Thickness ^{front} 7 $\frac{1}{8}$ " _{back} 13 $\frac{1}{16}$ "

Mean pitch of stay tubes in nests 8.325" Pitch across wide water spaces 13 $\frac{1}{4}$ " Working pressure ^{front} 192 lbs. _{back} 311 lbs.

Girders to combustion chamber tops: Material Steel Tensile strength 28-32 TONS \square Depth and thickness of girder at centre 7 $\frac{1}{2}$ " - 1 $\frac{3}{4}$ " Length as per Rule 30 $\frac{5}{8}$ " Distance apart 8" No. and pitch of stays in each THREE 8" Working pressure by Rules 210 lbs. Combustion chamber plates: Material Steel

Tensile strength 26-30 TONS \square Thickness: Sides 3 $\frac{3}{4}$ " Back 21 $\frac{1}{32}$ " Top 3 $\frac{3}{4}$ " Bottom 3 $\frac{3}{4}$ "

Pitch of stays to ditto: Sides 8 x 10 $\frac{1}{2}$ " Back 9 x 7 $\frac{3}{4}$ " Top 8 x 8" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 212 lbs. Front plate at bottom: Material Steel Tensile strength 26-30 TONS \square

Thickness 7 $\frac{7}{8}$ " Lower back plate: Material Steel Tensile strength 26-30 TONS \square Thickness 1 $\frac{1}{16}$ "

Pitch of stays at wide water space 13 $\frac{1}{4}$ " x 7 $\frac{3}{4}$ " Are stays fitted with nuts or riveted over nuts

Working Pressure 228 lbs. \square Main stays: Material Steel Tensile strength 28-32 TONS \square

Diameter ^{At body of stay,} 2 $\frac{3}{4}$ " _{or} 3" No. of threads per inch FIVE Area supported by each stay 327.7 \square

Working pressure by Rules 218 lbs. \square Screw stays: Material Steel Tensile strength 26-30 TONS \square

Diameter ^{At turned off part,} 1 $\frac{7}{8}$ " 1 $\frac{3}{4}$ " _{or} No. of threads per inch TEN Area supported by each stay 69.75 \square 84 \square

Working pressure by Rules 216 lbs Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, 1 7/8" or 1 3/4" Over threads }
 No. of threads per inch TEN Area supported by each stay 112.64 sq" 78.4 sq" Working pressure by Rules 189 lbs 231 lbs
 Tubes: Material Iron External diameter { Plain 2 1/2" Stay 2 1/2" Thickness { 1/2" 5/16" 1/4" No. of threads per inch TEN
 Pitch of tubes 3 3/4" Working pressure by Rules 577/259 lbs Main 300 lbs Manhole compensation: Size of opening in shell plate 16" x 12" Section of compensating ring 36" x 32" x 1 1/2" double No. of rivets and diameter of rivet holes 22- 1 1/4"
 Outer row rivet pitch at ends 8 3/8" 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 None 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 23 inclusive for boilers been complied with Yes

The foregoing is a correct description,
FOR HARLAND AND WOLFF, LIMITED,
De Heer 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 and to approved plans. The materials and workmanship are sound and good. They have been tested by hydraulic pressure with satisfactory results, have been efficiently fitted and fastened on board the vessel. The safety valves have been adjusted under steam

Survey Fee £
 Travelling Expenses (if any) £
 See machinery report

When applied for, 192
 When received, 192

R Lee Amers
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 11 NOV 1930
 Assigned See other report



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