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REPORT ON BOILERS.

No. 12438.

Received at London Office 4/11/1926

Date of writing Report 24th April 1926 When handed in at Local Office 15th April 1926 Port of Southampton

No. in Survey held at Southampton Date, First Survey June 18th 1925 Last Survey 15th April 1926

on the Steam Tug. **CLAUSENTUM.** (Number of Visits 20) Tons {Gross 268.0 Net 173.

Built at Southampton By whom built J.F. Thornycroft & Co Ltd Yard No. 1049 When built 1926
Engines made at Southampton By whom made J.F. Thornycroft & Co Ltd Engine No. 1049 When made 1926
Boilers made at Southampton By whom made Day Summers & Co Ltd Boiler No. 395 When made 1926
Nominal Horse Power 185 Owners Southampton Isle of White & South of England. Royal Mail Steam Packet Co Ltd Port belonging to Southampton

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY

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

Total Heating Surface of Boilers 3648 sq ft Is forced draught fitted No ✓ Coal or Oil fired Coal

No. and Description of Boilers Two Single Ended Multitubular Working Pressure 120 lbs ✓

Tested by hydraulic pressure to 230 Date of test 28.10.25. No. of Certificate 383. Can each boiler be worked separately Yes ✓

Area of Firegrate in each Boiler 65 sq ft No. and Description of safety valves to each boiler Two spring loaded ✓
Area of each set of valves per boiler (per Rule 16.9" as fitted 17.89" Pressure to which they are adjusted 125 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 6'-0" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating ✓ Is the bottom of the boiler insulated No

Largest internal dia. of boilers 13'-0" Length 11'-6" Shell plates: Material Steel ✓ Tensile strength 28 to 32

Thickness 25/32" Are the shell plates welded or flanged ✓ Description of riveting: circ. seams {end D.R.L. ✓ inter. ✓

Long. seams T.R.D.B.S. ✓ Diameter of rivet holes in {circ. seams 1" ✓ long. seams 1" ✓ Pitch of rivets {3" ✓ 5/8" ✓

Percentage of strength of circ. end seams {plate 66.6 rivets 55.1 Percentage of strength of circ. intermediate seam {plate ✓ rivets ✓

Percentage of strength of longitudinal joint {plate 80.5 rivets 90.3 combined 93.5 Working pressure of shell by Rules 121 lbs ✓

Thickness of butt straps {outer 5/8" inner 3/4" No. and Description of Furnaces in each Boiler Three Corrugated (Dighton Type) ✓

Material Steel ✓ Tensile strength 26 to 30 tons Smallest outside diameter 39.875 ✓

Length of plain part {top 9 1/4" front end bottom Thickness of plates {crown 7/16" ✓ bottom Description of longitudinal joint ✓

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 156.5.

End plates in steam space: Material Steel ✓ Tensile strength 26 to 30 Thickness 15/16" Pitch of stays 1'-6" x 1'-6" ✓

How are stays secured Double nuts and loose washers Working pressure by Rules 139. ✓

End plates: Material {front steel back steel Tensile strength {26 to 30 ✓ Thickness {3/4" ✓ 1/16" ✓

Mean pitch of stay tubes in nests 10.53" Pitch across wide water spaces 14" ✓ Working pressure {front 130 back 168

Orders to combustion chamber tops: Material Steel ✓ Tensile strength 28 to 32 ✓ Depth and thickness of girder

centre 7 1/2" x 1 1/2" Length as per Rule 2'-6 25/32" Distance apart 8 1/2" ✓ No. and pitch of stays

each Two @ 9 1/2" Working pressure by Rules 180 Combustion chamber plates: Material steel ✓

Tensile strength 26 to 30 Thickness: Sides 9/16" ✓ Back 7/32" Top 9/16" Bottom 9/16" ✓

Pitch of stays to ditto: Sides 9 1/2" x 8 1/2" Back 8 1/8" x 8 1/4" Top 8 1/2" x 9 1/2" Are stays fitted with nuts or riveted over nuts ✓

Working pressure by Rules 133. Front plate at bottom: Material steel ✓ Tensile strength 26 to 30

Thickness 3/4" Lower back plate: Material steel ✓ Tensile strength 26 to 30 Thickness 7/16" ✓

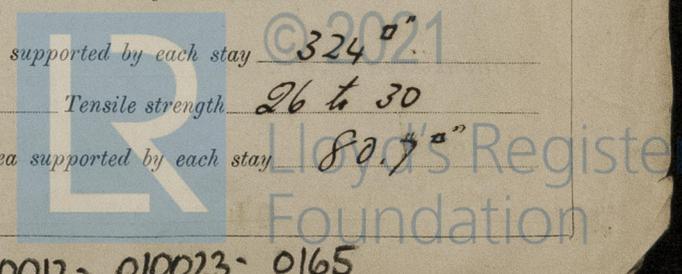
Pitch of stays at wide water space 1'-1 3/4" Are stays fitted with nuts or riveted over nuts ✓

Working Pressure 147.5 Main stays: Material steel ✓ Tensile strength 28 to 32

Diameter {At body of stay, or Over threads 2 1/2" ✓ No. of threads per inch 6 ✓ Area supported by each stay 324 sq in

Working pressure by Rules 135 Screw stays: Material steel ✓ Tensile strength 26 to 30

Diameter {At turned off part, or Over threads 1 5/8" 1 1/2" 1 3/8" No. of threads per inch 9 ✓ Area supported by each stay 80.7 sq in



Working pressure by Rules 133.5 Are the stays drilled at the outer ends No Margin stays: Diameter 1 5/8"
 No. of threads per inch 9 Area supported by each stay 56.65" Working pressure by Rules 221.5
 Tubes: Material Iron External diameter 3 1/2" Thickness 9 L.S.C. No. of threads per inch 9
 Pitch of tubes 4 3/4" x 4 5/8" Working pressure by Rules 122 Manhole compensation: Size of opening 48
 shell plate 12" x 15 1/2" Section of compensating ring 16" x 78/125 No. of rivets and diameter of rivet holes 16 @ 1"
 Outer row rivet pitch at ends 5 1/8" Depth of flange if manhole flanged 3/4" 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 of rivets in outer row in dome connection to shell

Type of Superheater Manufacturers of Tubes
 Number of elements Material of tubes Internal diameter and thickness of tubes
 Material of headers Tensile strength Thickness Can the superheater be shut off 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 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,
 DAY, SUMMERS & Co. LTD
 Harold, Tilbury Day Manufact

Dates of Survey while building
 During progress of work in shops - June 26, 18, 26, July 21, 28, Aug 25
 During erection on board vessel - Sept. 10, 16, 25, Oct. 2, 28, Feb 23, March 4, 8, 11, 12, 17, 25, 26, April 8
 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) yes.
 Total No. of visits 20.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The boilers were constructed under special survey, in accordance with the requirements of the Rules and approved plans, the material and workmanship is good and completion the boilers were tested by hydraulic pressure to 225 and found tight and sound, and afterwards fitted on board the vessel and their safety valves adjusted under steam as above.

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

H. J. Garnett
 Engineer Surveyor to Lloyd's Register of Shipping

FRI. 7 MAY 1926

Committee's Minute
 Assigned See S. Expt. attached

