

REPORT ON BOILERS.

No. 47531

Received at London Office 1 FEB 1928

of writing Report 192 When handed in at Local Office 30-1 1928 Port of Glasgow

Survey held at Glasgow Date, First Survey 22.2.27 Last Survey 17.2.28 1928.

on the Swire Line S. "Beauford" (Number of Visits 86) Gross 100.42 Tons Net 60.60

Built at Glasgow By whom built Barday & Co. Ltd. Yard No. 617 When built 1928

Lines made at Wallsend By whom made Parsons Marine Steam Fitting Co. Ltd. Engine No. 241 When made 1928

Boilers made at Glasgow By whom made Barday & Co. Ltd. Boiler No. 617 When made 1928

Indicated Horse Power 1574 Owners Canadian Pacific Steamships Ltd. Port belonging to London

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Wm. Beardmore & Co. Ltd. (Letter for Record S)

Heating Surface of Boilers 5116 sq. ft. Is forced draught fitted Yes Coal or Oil fired Coal

Description of Boilers 2 Single ended return tubes Working Pressure 250 lbs.

Tested by hydraulic pressure to 425 Date of test 10.10.27 No. of Certificate 14622 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 57.45 sq. ft. No. and Description of safety valves to each boiler Direct spring high lift

Area of each set of valves per boiler {per Rule 80 as fitted 80} Pressure to which they are adjusted 250 lbs. 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 well clear 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

Greatest internal dia. of boilers 15'-6" $\frac{26}{32}$ Length 11'-0" Shell plates: Material S Tensile strength 31-35 tons

Thickness 1 $\frac{19}{32}$ Are the shell plates welded or flanged No Description of riveting: circ. seams {end DR. overlap inter. 4.46

Circ. seams 28.18.5 in pitch Diameter of rivet holes in {circ. seams 1 $\frac{11}{16}$ long. seams 1 $\frac{11}{16}$ Pitch of rivets {plate 11-12.5 rivets 11-12.5

Percentage of strength of circ. end seams {plate 62.16 rivets 46.7 Percentage of strength of circ. intermediate seam {plate 84.83 rivets 84.02 combined 84.2

Percentage of strength of longitudinal joint {plate 84.83 rivets 84.02 combined 84.2 Working pressure of shell by Rules 252

Thickness of butt straps {outer 1 $\frac{14}{32}$ inner 1 $\frac{13}{32}$ No. and Description of Furnaces in each Boiler 3 Doughton

Material S Tensile strength 26-30 tons Smallest outside diameter 43 $\frac{1}{2}$

Length of plain part {top 1 $\frac{14}{32}$ bottom 1 $\frac{13}{32}$ Thickness of plates {crown 3 $\frac{3}{4}$ bottom 3 $\frac{3}{4}$ Description of longitudinal joint held

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 254

End plates in steam space: Material S Tensile strength 26-30 tons Thickness 1 $\frac{1}{16}$ Pitch of stays 25 $\frac{1}{2}$ x 17 $\frac{1}{2}$

How are stays secured dovetail nuts Working pressure by Rules 253

End plates: Material {front 3 S back 3 S Tensile strength {26-30 tons Thickness {3 $\frac{1}{8}$

Minimum pitch of stay tubes in nests 9.25 Pitch across wide water spaces 13 $\frac{3}{4}$ Working pressure {front 256 back 340

Ends to combustion chamber tops: Material S Tensile strength 28-32 tons Depth and thickness of girder

Centre 10 $\frac{1}{8}$ x 1 $\frac{1}{2}$ Length as per Rule 2'-10 $\frac{1}{16}$ Distance apart 8 No. and pitch of stays

Each 3 @ 8 $\frac{1}{4}$ Working pressure by Rules 253 Combustion chamber plates: Material S

Tensile strength 26-30 tons Thickness: Sides 1 $\frac{1}{16}$ Back 1 $\frac{1}{16}$ Top 1 $\frac{1}{16}$ Bottom 29 $\frac{1}{32}$

Pitch of stays to ditto: Sides 8 $\frac{1}{4}$ x 8 Back 8 $\frac{1}{4}$ x 8 Top 8 $\frac{1}{4}$ x 8 Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules 251 Front plate at bottom: Material S Tensile strength 26-30 tons

Thickness 31 $\frac{1}{32}$ Lower back plate: Material S Tensile strength 26-30 tons Thickness 5 $\frac{1}{64}$

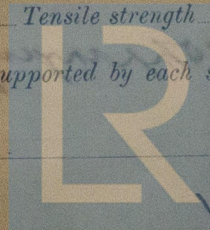
Pitch of stays at wide water space 13 $\frac{3}{4}$ x 8 $\frac{1}{4}$ Are stays fitted with nuts or riveted over Nuts

Working Pressure 250 Main stays: Material S Tensile strength 28-32 tons

Gage diameter {At body of stay, 3 $\frac{1}{2}$ or 3 $\frac{1}{2}$ No. of threads per inch 6 Area supported by each stay 3450"

Working pressure by Rules 252 Screw stays: Material S Tensile strength 26-30 tons

Gage diameter {At turned off part, 1 $\frac{1}{5}$ or 1 $\frac{1}{5}$ No. of threads per inch 9 Area supported by each stay 660"



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Working pressure by Rules 276 Are the stays drilled at the outer ends No. ✓ Margin stays: Diameter { At turned off part, or Over threads 2 x 2 1/2 ✓
No. of threads per inch 9 Area supported by each stay 115 sq. Working pressure by Rules 260
Tubes: Material W. Iron ✓ External diameter { Plain 3 23/4 ✓ Stay 3 23/4 ✓ Thickness { 1/2 8 WG. ✓ 1/2 16 8 ✓ No. of threads per inch 9 ✓
Pitch of tubes 4 ✓ Working pressure by Rules 276 Manhole compensation: Size of opening in
shell plate 14 1/2 x 15 1/2 ✓ Section of compensating ring 3 1/2 x 33 1/2 x 1 19/32 ✓ No. of rivets and diameter of rivet holes 40 @ 1 1/2 ✓
Outer row rivet pitch at ends (3 3/4) 11 1/8 ✓ Depth of flange if manhole flanged 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 On forward list only Superheater Co. Manchester Manufacturers of Tubes { Lee Manchester Ent. No. 6 - 1934. 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? Yes ✓ Is a safety valve fitted to every part of the superheater which can be shut off from the boiler? Yes ✓
Area of each safety valve 3.1410 ✓ Are the safety valves fitted with easing gear? Yes ✓ Working pressure as per
Rules ✓ Pressure to which the safety valves are adjusted 250 lbs. Hydraulic test pressure:
tubes ✓ castings ✓ and after assembly in place 200 lbs. Are drain cocks or valves fitted
to free the superheater from water where necessary? Yes ✓
Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with? Yes ✓

The foregoing is a correct description,
Manufacturer.

Dates of Survey { During progress of work in shops - - - See accompanying
while building { During erection on board vessel - - - Machinery report

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
FOR BARCLAY, CURLE & CO., LTD.
Total No. of visits

Archibald Gilchrist
Director

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

These Boilers have been built under special Survey and in accordance with the Rules and approved plans. The materials and workmanship are good. On completion they have been tested by hydraulic pressure and found tight. The Boilers have been efficiently secured in position on board. Steel invoices for boiler No. 618 are also enclosed.

Survey Fee ... £ 29 : 11 : - When applied for, 31.1.1928
Travelling Expenses (if any) £ : : : When received, 3.2.1928

Geo. J. J. J.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 31 JAN 1928

Assigned See accompanying Machinery Report.



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Foundation