

REPORT ON BOILERS.

No. H4285

Received at London Office

14 JAN 1925

Date of writing Report 5 Jan 1925 When handed in at Local Office 7. 1. 1925 Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 13. 12. 1924 Last Survey 29. 12. 1924
 on the O.S.M.V. 'HORANGI' (Number of Vials 249) Tons { Gross 17491
 Net 10733
 Master _____ Built at Glasgow By whom built The Fairfield S.B.E.C. Co. Ltd. Yard No. 603 When built 1924
 Engines made at Glasgow By whom made The Fairfield S.B.E.C. Co. Ltd. Engine No. 603 When made 1924
 Boilers made at Glasgow By whom made The Fairfield S.B.E.C. Co. Ltd. Boiler No. 603 When made 1924
 Nominal Horse Power 3177 Owners Union S.S. Co. of New Zealand Ltd. Port belonging to London

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel W. Brampton & Co. Ltd. (Letter for Record V)
 Total Heating Surface of Boilers 3504 3183 Is forced draught fitted Yes Coal or Oil fired Oil
 No. and Description of Boilers Two Cyl. Hunt. Single End. Working Pressure 120 lb.
 Tested by hydraulic pressure to 230 lb. Date of test 6. 8. 23 No. of Certificate 16311 Can each boiler be worked separately Yes
 Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler Two High Lift
 Area of each set of valves per boiler { per Rule 13.0 Pressure to which they are adjusted 125 lb. Are they fitted with casing 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 Wall clear Is oil fuel carried in the double bottom under boilers Yes
 Smallest distance between shell of boiler and tank top plating 22" Is the bottom of the boiler insulated Yes
 Largest internal dia. of boilers 13'-0" Length 10'-6" Shell plates: Material S Tensile strength 28/32 T.
 Thickness 3/4" Are the shell plates welded or flanged No Description of riveting: circ. seams { end LDR
 long. seams DBS/TR. Diameter of rivet holes in { circ. seams 15/16" Pitch of rivets { 3.37"
 Percentage of strength of circ. end seams { plate 73.1 Percentage of strength of circ. intermediate seam { plate ✓
 rivets 43.2 Working pressure of shell by Rules 122 lb.
 Percentage of strength of longitudinal joint { plate 86.4
 rivets 85.3
 combined 89.9
 Thickness of butt straps { outer 9/16" No. and Description of Furnaces in each Boiler Three Morrison
 inner 11/16" Tensile strength 26/30 T. Smallest outside diameter 36.875"
 Material S. Thickness of plates { crown 7/16" Description of longitudinal joint Weld
 Length of plain part { top ✓ bottom ✓ Working pressure of furnace by Rules 169 lb.
 Dimensions of stiffening rings on furnace or c.c. bottom None End plates in steam space: Material S. Tensile strength 26/30 T. Thickness 1/4" (Pitch of stays) 28 1/2 x 20"
 How are stays secured D.N. Working pressure by Rules 120 lb.
 Tube plates: Material { front S. Tensile strength { 26/30 T. Thickness { 11/16"
 back S. Pitch across wide water spaces 14" Working pressure { front 121 lb.
 Mean pitch of stay tubes in nests 12 3/4 x 8 1/4" Tensile strength 28/32 T. Depth and thickness of girder
 Girders to combustion chamber tops: Material S. Distance apart 8" No. and pitch of stays
 at centre 7 x 1 1/2" Length as per Rule 29.968" Combustion chamber plates: Material S.
 in each 20 9 1/2" Working pressure by Rules 177 lb. Thickness: Sides 9/16" Back 19/32" Top 9/16" Bottom 9/16"
 Tensile strength 26/30 T. Pitch of stays to ditto: Sides 9 1/2 x 8" Back 10 7/8 x 9" Top 9 1/2 x 8" Are stays fitted with nuts or riveted over Nuts
 Working pressure by Rules 125 lb. Front plate at bottom: Material S. Tensile strength 26/30 T.
 Thickness 11/16" Lower back plate: Material S. Tensile strength 26/30 T. Thickness 11/16"
 Pitch of stays at wide water space 14 x 9" Are stays fitted with nuts or riveted over Nuts
 Working Pressure 136 lb. Main stays: Material S. Tensile strength 28/32 T.
 Diameter { At body of stay 2 7/8" No. of threads per inch 6 Area supported by each stay 480"
 Over threads 2 7/8" Working pressure by Rules 123 lb. Screw stays: Material I. Tensile strength 21 1/2/24 T.
 Diameter { At turned off part 1 1/2" No. of threads per inch 9 Area supported by each stay 103.75"
 Over threads 1 1/2"



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Working pressure by Rules 12/4 Are the stays drilled at the outer ends h Margin stays: Diameter At turned off part
 No. of threads per inch 9 Area supported by each stay 110.81 Working pressure by Rules 137/4
 Tubes: Material S External diameter Plain 3 Thickness 10.659 No. of threads per inch 9
 Pitch of tubes 13 1/2 x 8 1/4 Working pressure by Rules 146/4 Manhole compensation: Size of opening in
 shell plate 19 1/2 x 15 1/2 Section of compensating ring Flanged 18 x 7 1/8 No. of rivets and diameter of rivet holes 34-1
 Outer row rivet pitch at ends 6 1/4 Depth of flange if manhole flanged 2 Steam Dome: Material h
 Tensile strength Thickness of shell Description of longitudinal joint
 Diameter of rivet holes Pitch of rivets Percentage of strength of joint Plate
 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 h 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 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

For THE FAIRFIELD SHIPBUILDING
 ENGINEERING CO., LIMI

The foregoing is a correct description,

Rob. Traill

Manufacturer.

Dates of Survey During progress of work in shops - See attached Are the approved plans of boiler and superheater forwarded herewith Yes
 while building During erection on board vessel - - - Machinery report See attached (If not state date of approval.)
 Total No. of visits 249

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These Boilers have been
constructed under special survey in accordance with the Rules and approved
plan. The materials and workmanship employed in their manufacture
are sound and good. They have been fitted on board the Vessel in a
satisfactory manner.

Survey Fee See Machinery Report When applied for, 192
 Travelling Expenses (if any) £ ✓ When received, 192

W. Lane Jas. Cairns
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 13 JAN 1925

Assigned See accompanying machinery
report.