

REPORT ON BOILERS.

No. 20843.

Received at London Office 15 NOV 1939

Date of writing Report 1st Nov. 1939. When handed in at Local Office 9th Nov. 1939. Port of GREENOCK.

No. in Survey held at GREENOCK.

Date, First Survey 8th FEBRUARY 1939. Last Survey 8th NOVEMBER 1939.

on the GLENPARK.

(Number of Visits) Gross 5136
Tons Net 3057.4

Master Built at PORT GLASGOW By whom built LITHGOWS LD. Yard No. 922 When built 1939-11

Engines made at GREENOCK By whom made RANKIN & BLACKMORE LD. Engine No. 461 When made 1939

Boilers made at GREENOCK By whom made RANKIN & BLACKMORE LD. Boiler No. 461 When made 1939

Nominal Horse Power Owners DENHOLM LINE STEAMERS LD. Port belonging to GREENOCK.

MULTITUBULAR BOILERS—MAIN, ~~AUXILIARY, OR DONKEY.~~

Manufacturers of Steel Colvilles Ltd. (Letter for Record 5. ✓)

Total Heating Surface of Boilers 5508 # ✓ Is forced draught fitted Yes. ✓ Coal or Oil fired Coal. ✓

No. and Description of Boilers 2 S.E. Multitubular ✓ Working Pressure 230 lbs. ✓

Tested by hydraulic pressure to 395 lbs. Date of test 26/6/39. No. of Certificate 2192. Can each boiler be worked separately Yes. ✓

Area of Firegrate in each Boiler 58.75 ✓ No. and Description of safety valves to each boiler 2 S.L. (Cockburns Improved High Lift) ✓

Area of each set of valves per boiler { per Rule 8.40" ✓ as fitted 11.9 a" ✓ Pressure to which they are adjusted 230 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 on woodwork 5'0" ✓ Is oil fuel carried in the double bottom under boilers No. ✓

Smallest distance between shell of boiler and tank top plating 2'3" ✓ Is the bottom of the boiler insulated Yes. ✓

Largest internal dia. of boilers 16'0" ✓ Length 11'6" ✓ Shell plates: Material Steel. ✓ Tensile strength 29/33 tons. ✓

Thickness 1 5/8" ✓ Are the shell plates welded or flanged No. ✓ Description of riveting: circ. seams { end D.R. ✓ inter. ✓

long. seams T.R.D.B.S. ✓ Diameter of rivet holes in { circ. seams 1 5/8" ✓ Pitch of rivets { 4.344" ✓ 10.65625" ✓ long. seams 1 5/8" ✓

Percentage of strength of circ. end seams { plate 62.59. ✓ rivets 46.5 ✓ Percentage of strength of circ. intermediate seam { plate 84.8 ✓ rivets 89. ✓

Percentage of strength of longitudinal joint { plate 84.8 ✓ rivets 89. ✓ combined 87.3 ✓ Working pressure of shell by Rules 239 lbs. ✓

Thickness of butt straps { outer 1 1/4" ✓ inner 1 3/8" ✓ No. and Description of Furnaces in each Boiler 3 Deighton Section corrugated. ✓

Material Steel. ✓ Tensile strength 26/30 tons ✓ Smallest outside diameter 3'-1 1/2" ✓

Length of plain part { top 3/4" ✓ bottom 3/4" ✓ Thickness of plates { crown 3/4" ✓ bottom 3/4" ✓ Description of longitudinal joint Weld ✓

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 232.4 lbs. ✓

End plates in steam space: Material Steel ✓ Tensile strength 26/30 tons ✓ Thickness 1 5/32" ✓ Pitch of stays 20" x 2 1/4" ✓

How are stays secured D.Nuts and Washers. ✓ Working pressure by Rules 233 lbs. ✓

Tube plates: Material { front Steel ✓ back Steel ✓ Tensile strength 26/30 tons. ✓ Thickness { 1 1/32" ✓ 25/32" ✓

Mean pitch of stay tubes in nests 9.4 ✓ Pitch across wide water spaces 1/4" ✓ Working pressure { front 253.7 lbs. ✓ back 247.4 lbs. ✓

Girders to combustion chamber tops: Material Steel. ✓ Tensile strength 29/33 tons ✓ Depth and thickness of girder

at centre 10 1/4" x 1 1/2" ✓ Length as per Rule 34 5/32" ✓ Distance apart 9" ✓ No. and pitch of stays

in each 3-8 1/2" ✓ Working pressure by Rules 235 lbs. ✓ Combustion chamber plates: Material Steel. ✓

Tensile strength 26/30 tons ✓ Thickness: Sides 23/32" ✓ Back 3/4" ✓ Top 23/32" ✓ Bottom 7/8" ✓

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

Working pressure by Rules 231 lbs. ✓ Front plate at bottom: Material Steel ✓ Tensile strength 26/30 tons. ✓

Thickness 1 1/32" ✓ Lower back plate: Material Steel ✓ Tensile strength 26/30 tons ✓ Thickness 29/32" ✓

Pitch of stays at wide water space 14 1/4" x 9 1/4" ✓ Are stays fitted with nuts or riveted over Manginis-Nuts Others riveted on outside ✓

Working Pressure 233 lbs. ✓ Main stays: Material Steel. ✓ Tensile strength 28/32 tons. ✓

Diameter { At body of stay, 10-3 5/8" 62-3 1/4" ✓ No. of threads per inch 6 ✓ Area supported by each stay 435 sq" ✓ Over threads 1 3/4" ✓

Working pressure by Rules 236 lbs. ✓ Screw stays: Material Steel. ✓ Tensile strength 26/30 tons. ✓

Diameter { At turned off part, 1 3/4" ✓ No. of threads per inch 9 ✓ Area supported by each stay 78.6 sq" ✓ Over threads 1 3/4" ✓

Working pressure by Rules 231 lbs Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, or Over threads 2"

No. of threads per inch 9 Area supported by each stay 108.5" Working pressure by Rules 233 lbs

Tubes: Material Steel External diameter { Plain 3" Stay 3" Thickness { 5/16" 3/8" No. of threads per inch 9

Pitch of tubes 4 1/4" x 4 1/8" Working pressure by Rules 250 lbs Manhole compensation: Size of opening in shell plate 16" x 12" Section of compensating ring 2'-5" x 2'-9" x 1 5/8" No. of rivets and diameter of rivet holes 28 - 5/8"

Outer row rivet pitch at ends 10 21/32" Depth of flange if manhole flanged _____ 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 Engine 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 The Superheater Co (Inchukituk type) Manufacturers of { Tubes The Superheater Co. Steel forgings The Superheater Co. Steel castings _____

Number of elements 120 Material of tubes Steel Internal diameter and thickness of tubes 16 1/4" 2 1/4"

Material of headers Steel Tensile strength ✓ Thickness 1" 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 3.1416 sq" Are the safety valves fitted with easing gear Yes Working pressure as per Rules 230 lbs Pressure to which the safety valves are adjusted 230 lbs Hydraulic test pressure: tubes 1000 lbs forgings and castings 690 lbs and after assembly in place 575 lbs Are drain cocks or valves fitted to free the superheater from water where necessary Yes

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with _____

The foregoing is a correct description,
RANKIN & BLACKMORE LTD.
H. J. J. J. DIRECTOR. Manufacturer.

Dates of Survey { During progress of work in shops - - } Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

while building { During erection on board vessel - - - } Total No. of visits _____

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. "DORNOCH" GTR. 20698

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been built under Special Survey in accordance with the approved plans. The materials and workmanship are good. For recommendation please see machinery report.

Survey Fee £ When applied for, 19

Travelling Expenses (if any) £ When received, 19

M. Caldwell
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 14 NOV 1939

Assigned SEE ACCOMPANYING MACHINERY REPORT.



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