

## REPORT ON BOILERS.

No. 23858

27 APR 1949

Received at London Office.

Date of writing Report 12<sup>th</sup> APRIL 1949. When handed in at Local Office 20<sup>th</sup> APRIL 1949. Port of GREENOCK.No. in Survey held at GREENOCK. Reg. Book. Date, First Survey 29<sup>th</sup> DECEMBER 1947 Last Survey 28<sup>th</sup> MARCH 1949.

91446. on the STEEL SC. "COULGARVE" (Number of Visits...✓) Tons { Gross 2946.49 Net 1612.80.

Master ✓ Built at PORT GLASGOW By whom built LITHGOWS, LTD. Yard No. 1049. When built 1949.

Engines made at GREENOCK. By whom made RANKIN &amp; BLACKMORE, LTD. Engine No. 523. When made 1949.

Boilers made at GREENOCK. By whom made RANKIN &amp; BLACKMORE, LTD. Boiler No. 523. When made 1949.

Nominal Horse Power 427. Owners DORNOCH SHIPPING CO. LTD. (LAMBERT BROS. LTD. MGRS). Port belonging to GLASGOW.

## MULTITUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel COLVILLES, LTD. (Letter for Record (5))

Total Heating Surface of Boilers 4912  $\text{sq. ft.} = 26 \text{ hrs.}$  Is forced draught fitted YES. Coal or Oil fired BOTH.No. and Description of Boilers 2 SINGLE ENDED MULTITUBULAR CYLINDRICAL BOILERS. Working Pressure 220  $\text{lbs. sq. in.}$ Tested by hydraulic pressure to 380  $\text{lbs. sq. in.}$  Date of test 12.1.49. No. of Certificate No. 2508. Can each boiler be worked separately YES.Area of Firegrate in each Boiler 54  $\text{sq. ft.}$  No. and Description of safety valves to each boiler COCKBURNS IMPROVED HIGH LIFT - DOUBLE TYPE.Area of each set of valves per boiler { per Rule 7.87  $\text{sq. in.}$  as fitted 9.82  $\text{sq. in.}$  Pressure to which they are adjusted 220 + 3%. Are they fitted with easing gear YES.

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler NO DONKEY BOILER.

Smallest distance between boilers or uptakes and bunkers 18". Is oil fuel carried in the double bottom under boilers NO.

Smallest distance between shell of boiler and tank top plating 24". Is the bottom of the boiler insulated YES.

Largest internal dia. of boilers 15'-2 1/16" Length 11'-6" Shell plates: Material S.M. STEEL. Tensile strength 29/33 T.

Thickness 1 15/32" Are the shell plates welded or flanged FLANGED. Description of riveting: circ. seams { end DR. inter. ✓

Long. seams T.R.D. BUTT STRAPS. Diameter of rivet holes in { circ. seams 1 1/2" long. seams 1 1/2" Pitch of rivets { 4.073" 10 7/16"

Percentage of strength of circ. end seams { plate 63.17% rivets 46.85% Percentage of strength of circ. intermediate seam { plate 85.63% rivets 85.7%

Percentage of strength of longitudinal joint { plate 85.7% rivets 88.39% Working pressure of shell by Rules.

Thickness of butt straps { outer 1 1/8" inner 1 1/4" No. and Description of Furnaces in each Boiler 3 OF DEIGHTON CORRUGATED SECTION.

Material S.M. STEEL Tensile strength 26/30 T. Smallest outside diameter 3'-9 3/8"

Length of plain part { top ✓ bottom ✓ Thickness of plates { crown 11/16" bottom 11/16" Description of longitudinal joint WELDED.

Dimensions of stiffening rings on furnace or c.c. bottom NONE. Working pressure of furnace by Rules.

End plates in steam space: Material S.M. STEEL Tensile strength 26/30 T. Thickness 1 11/32" Pitch of stays 19 1/2" x 19 1/2"

Are stays secured DOUBLE NUTS. Working pressure by Rules.

End plates: Material { front S.M. STEEL back S.M. STEEL Tensile strength { 26/30 T. 26/30 T. Thickness { 1" 27/32"

Pitch of stay tubes in nests 42 = 10 1/2" 12 3/4" x 8 1/4" Pitch across wide water spaces 14" x 8 1/4" Working pressure { front back

Orders to combustion chamber tops: Material S.M. STEEL Tensile strength 26/30 T. Depth and thickness of girder

Centre 17" x 11" x 1 1/8" WELDED BRACKET PLATES Length as per Rule SEE PLAN. Distance apart 1'-2 5/8" No. and pitch of stays

each Working pressure by Rules. Combustion chamber plates: Material S.M. STEEL SPENCER TYPE.

Tensile strength 26/30 T. Thickness: Sides 25/32" Back 3/4" Top 1" Bottom 7/8"

Pitch of stays to ditto: Sides 9" x 10" Back 9 7/8" x 9" Top GIRDERS 14 5/8" Are stays fitted with nuts or riveted over YES.

Working pressure by Rules. Front plate at bottom: Material S.M. STEEL Tensile strength 26/30 T.

Thickness 1" Lower back plate: Material S.M. STEEL Tensile strength 26/30 T. Thickness 15/16"

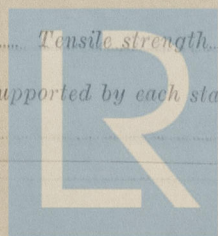
Pitch of stays at wide water space 14 1/4" x 9" Are stays fitted with nuts or riveted over NUTS.

Working pressure Main stays: Material S.M. STEEL Tensile strength 28/32 T.

At body of stay 3 3/8" No. of threads per inch 6 TPI. Area supported by each stay 19 1/2" x 19 1/2"

Working pressure by Rules. Screw stays: Material S.M. STEEL Tensile strength 26/30 T.

At turned off part 1 7/8" No. of threads per inch 9 TPI. Area supported by each stay 9 5/8" x 9" BACKS 9" x 10" SIDES



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Working pressure by Rules... 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 T.P.I. ✓ Area supported by each stay...  $(14\frac{1}{2} \times 9)$   $(9\frac{7}{8} \times 9)$  Working pressure by Rules...  
Tubes: Material S.D. STEEL External diameter { Plain... 3" ✓ Thickness { 8 W.G. INNER = 5/16 No. of threads per inch... 9 T.P.I. ✓  
Pitch of tubes... 12 3/4 x 8 1/4. MEAN = 10.5 SQ. Working pressure by Rules... Manhole compensation: Size of opening  
shell plate... NONE Section of compensating ring... ✓ No. of rivets and diameter of rivet holes... ✓  
Outer row rivet pitch at ends... ✓ Depth of flange if manhole flanged... 4 1/6 TOP - 3 3/8 BOTM. 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  
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 SUPERHEATER CO. LTD. MANCHESTER Manufacturers of

Number of elements... 120 Material of tubes... STEEL - WELDLESS Internal diameter and thickness of tubes... ✓  
Material of headers... ✓ Tensile strength... ✓ Thickness... ✓ Can the superheater be shut off  
the boiler be worked separately... No. 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... 2" DIA = 3.14 SQ. INS. ✓ Are the safety valves fitted with easing gear... YES. ✓ Working pressure as  
Rules... Pressure to which the safety valves are adjusted... 220 + 3% lbs sq" ✓ Hydraulic test pressure  
tubes... 1000 lbs sq" forgings and castings... 660 lbs sq" and after assembly in place... 440 lbs sq" Are drain cocks  
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... YES. ✓

The foregoing is a correct description,  
RANKIN & BLACKMORE LTD. Manufactured by  
James Smith MANAGING DIRECTOR.

Dates of Survey while building { During progress of work in shops - - } Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)  
{ During erection on board vessel - - } Total No. of visits...  
SEE MACHINERY REPORT

Is this Boiler a duplicate of a previous case... YES. If so, state Vessel's name and Report No. SS. "COULBRECK" GRK. REPORT No. 23450.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been built under

Special Survey in accordance with the Rules & the Approved Plans & amendments thereto.

The materials, as far as could be determined, are sound & free from visible defects, the workmanship is good, & the boilers have been efficiently & securely installed on board.

For Recommendations as to Class, please refer to the Machinery Report attached hereto.

Survey Fee ... £ : : } When applied for, 19...  
Travelling Expenses (if any) £ : : } When received, 19...

Frechmann  
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute... GLASGOW 26 APR 1949

Assigned... SEE ACCOMPANYING MACHINERY REPORT.



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