

## REPORT ON BOILERS.

No. 20634.

SEP 30 1938

Received at London Office

Date of writing Report 19. 8. 1938 When handed in at Local Office 26<sup>th</sup> SEPT 1938 Port of GREENOCK.No. in Reg. Book. Survey held at Greenock Date, First Survey 9<sup>th</sup> AUGUST 1934 Last Survey 23<sup>rd</sup> SEPTEMBER 1938.

on the

S/S "Coulturn"

(Number of Visits ✓)

Gross 3458.43  
Tons Net 2155.26Master Built at P. Glasgow By whom built Liffegow L<sup>a</sup> Yard No. 913 When built 1938Engines made at Greenock By whom made Rankin & Blackmore & Co<sup>l</sup> Engine No. 459 When made 1938

Boilers made at auto By whom made auto Boiler No. 459 When made 1938

Nominal Horse Power Owners Donock Sluffing Co<sup>l</sup> Port belonging to Glasgow.

## MULTITUBULAR BOILERS—MAIN, [REDACTED]

Manufacturers of Steel Calville, Scottish Iron &amp; Steel Co. (Letter for Record S ✓)

Total Heating Surface of Boilers 5420 # Is forced draught fitted yes Coal Oil fired Coal

No. and Description of Boilers 2 Single Ended Working Pressure 220

Tested by hydraulic pressure to 380 Date of test 22.4.38 No. of Certificate 2144 Can each boiler be worked separately yes

Area of Firegrate in each Boiler 51.45 # No. and Description of safety valves to each boiler 2 Cochran's Improved High Lift

Area of each set of valves per boiler per Rule 4.63 # as fitted 11.8 # Pressure to which they are adjusted 225 Are they fitted with easing gear yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No

Smallest distance between boilers or uptakes and bunkers or woodwork 24" Is oil fuel carried in the double bottom under boilers no

Smallest distance between shell of boiler and tank top plating 30" Is the bottom of the boiler insulated yes

Largest internal dia. of boilers 15' 4 1/2" Length 12' 0" Shell plates: Material S Tensile strength 29.33

Thickness 17/32" Are the shell plates welded or flanged ✓ Description of riveting: circ. seams end DE

long. seams T R &amp; D B S Diameter of rivet holes in circ. seams 1 1/2" long. seams 1 1/2" Pitch of rivets 4 1/16" 10.9/32"

Percentage of strength of circ. end seams plate 63.25 rivets 45.00 Percentage of strength of circ. intermediate seam plate 85.41 rivets 83.45

Percentage of strength of longitudinal joint plate 85.41 rivets 83.45 combined 84.69 Working pressure of shell by Rules 224

Thickness of butt straps outer 16/32" inner 19/32" No. and Description of Furnaces in each Boiler 3 Deighton

Material S Tensile strength 26-30 Smallest outside diameter 3 10 1/4"

Length of plain part top bottom ✓ Thickness of plates crown 23/32" bottom 23/32" Description of longitudinal joint weld

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 224

End plates in steam space: Material S Tensile strength 26-30 Thickness 13/8" Pitch of stays 1' 6" 1' 9 3/4"

How are stays secured D N. Washers Working pressure by Rules 222

Tube plates: Material front S back S Tensile strength 26-30 Thickness 13/16"

Mean pitch of stay tubes in nests 10.362" Pitch across wide water spaces 14" Working pressure front 228 back 226

Girders to combustion chamber tops: Material S Tensile strength 29.33 Depth and thickness of girder

at centre 10' 13/16" (2) Length as per Rule 34.41" Distance apart. 10 No. and pitch of stays

in each 3 at 9 1/4" Working pressure by Rules 229 Combustion chamber plates: Material S

Tensile strength 26-30 Thickness: Sides 25/32" Back 23/32" Top 25/32" Bottom 7/8"

Pitch of stays to ditto: Sides 9 1/4" 10" Back 9 1/4" 8 3/4" Top 10" 9 1/4" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 223 Front plate at bottom: Material S Tensile strength 26-30

Thickness 1" Lower back plate: Material S Tensile strength 26-30 Thickness 29/32"

Pitch of stays at wide water space 14 1/2" Are stays fitted with nuts or riveted over nuts

Working Pressure 235 Main stays: Material S Tensile strength 28 32

Diameter At body of stay, or over threads 3 3/8" No. of threads per inch 6 Area supported by each stay 39.15"

Working pressure by Rules 223 Screw stays: Material S Tensile strength 26-30

Diameter At turned off part, or over threads 1 3/4" No. of threads per inch 9 Area supported by each stay 92.5"



Working pressure by Rules 224 Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, 2" or Over threads }  
No. of threads per inch 9 Area supported by each stay 104 1/2" Working pressure by Rules 239  
Tubes: Material Iron External diameter { Plain } 3 Thickness { 8WG } 3/8" No. of threads per inch 9  
Pitch of tubes 4 1/8" 4 1/8" Working pressure by Rules 224 Manhole compensation: Size of opening in  
shell plate 16 1/2" Section of compensating ring 3'-0" 2'-10" 1 1/2" No. of rivets and diameter of rivet holes 32 at 1 9/16"  
Outer row rivet pitch at ends 10 7/16" 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  
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 Manufacturers of { Tubes Steel forgings Steel castings }  
Number of elements ✓ Material of tubes ✓ Internal diameter and thickness of tubes  
Material of headers For particulars see Copy of Manufacturer's Report NO 10 F 1113 attached  
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 (2) 3'142" Are the safety valves fitted with easing gear ✓ Working pressure as per  
Rules 220 Pressure to which the safety valves are adjusted 220 lbs Hydraulic test pressure:  
tubes ✓ forgings and castings ✓ and after assembly in place 440 lbs Are drain cocks or  
valves fitted to free the superheater from water where necessary ✓  
Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with ✓  
The foregoing is a correct description,  
RANKIN & BLACKMORE, LTD. Manufacturer.  
J. S. M. 65 DIRECTOR

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

Is this Boiler a duplicate of a previous case No If so, state Vessel's name and Report No. -

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 workmanship & material are of good quality. They have now been securely fitted on board. This Report accompanies that of the Machinery

Survey Fee charged on Manifest Travelling Expenses (if any) When applied for, 19 When received, 19  
W. E. Gordon-Mitchell  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 29 SEP 1938  
Assigned See First Entry Machinery Report  
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