

REPORT ON BOILERS.

Received at London Office

SEP 30 1938

Date of writing Report 16.8.1938 When handed in at Local Office 26th SEPT. 1938. Port of Greenock

No. in Reg. Book. Survey held at Greenock Date, First Survey 9th August 1934. Last Survey 23rd SEPTEMBER 1938.

on the

S/S "Coulter" (Number of Visits ✓) Tons { Gross 3458.43. Net 2155.26.

Master Built at Glasgow By whom built Lithgow & Co Yard No. 913 When built 1938
Engines made at Greenock By whom made Rankine & Blackmore, Ltd Engine No. 459 When made 1938
Boilers made at ditto By whom made ditto Boiler No. 459 When made 1938
Nominal Horse Power Owners Donohoe Shipping Co. Port belonging to Glasgow.

MULTITUBULAR BOILERS, AUXILIARY,

Manufacturers of Steel Colville, Scottish D & CO. (Letter for Record S ✓)

Total Heating Surface of Boilers 1495 sq ft Is forced draught fitted No ✓ Coal or Oil fired Coal

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

Tested by hydraulic pressure to 380 Date of test 22.4.38 No. of Certificate 2148 Can each boiler be worked separately Yes ✓

Area of Firegrate in each Boiler 45 sq ft No. and Description of safety valves to each boiler 2 Colburn's improved high lift.

Area of each set of valves per boiler 4.8 per Rule as fitted 4.8 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 ✓

Smallest distance between boilers or uptakes and bunkers or woodwork 5-0 Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 2-6 Is the bottom of the boiler insulated Yes ✓

Largest internal dia. of boilers 13-4 1/16" Length 10-6" Shell plates: Material S Tensile strength 29.33

Thickness 1 5/16" Are the shell plates welded or flanged ✓ Description of riveting: circ. seams end DR inner ✓

long. seams TR.D.B.S Diameter of rivet holes in circ. seams 1 3/8" long. seams 1 5/16" Pitch of rivets 4 1/32" 8 15/16" ✓

Percentage of strength of circ. end seams plate 66 rivets 44.3 Percentage of strength of circ. intermediate seam plate 86.3 rivets 85.4 ✓

Percentage of strength of longitudinal joint plate 85.4 rivets 84.8 Working pressure of shell by Rules 224

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

Material S Tensile strength 26.30 Smallest outside diameter 3-4 1/4" ✓

Length of plain part top bottom ✓ Thickness of plates crown 5/8" bottom 5/8" Description of longitudinal joint weld

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 226

End plates in steam space: Material S Tensile strength 26.30 Thickness 1 3/8" Pitch of stays 22 1/4" x 14 1/2" ✓

How are stays secured DN & Washers Working pressure by Rules 222

Tube plates: Material front S back S Tensile strength 26.30 Thickness 1 5/16" Working pressure front 250 back 230

Mean pitch of stay tubes in nests 10 23/4" Pitch across wide water spaces 14 1/4" Working pressure front 250 back 230

Girders to combustion chamber tops: Material S Tensile strength 29.33 Depth and thickness of girder at centre 10" x 3 1/4" (2) Length as per Rule 34 15/32" Distance apart 9 1/4" No. and pitch of stays

in each 3 at 9 1/4" Working pressure by Rules 228 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" x 10" Back 8 1/2" x 9 1/2" Top 9 1/4" x 9 1/4" Are stays fitted with nuts or riveted over Nuts ✓

Working pressure by Rules 231. Front plate at bottom: Material S Tensile strength 26.30

Thickness 1" Lower back plate: Material S Tensile strength 26.30 Thickness 7/8" ✓

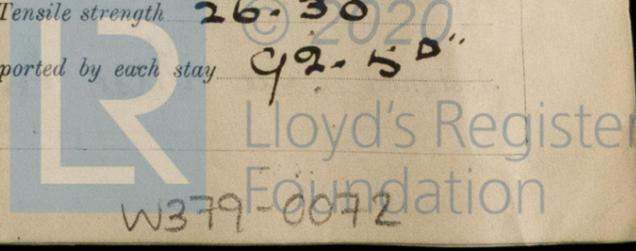
Pitch of stays at wide water space 14 1/4" Are stays fitted with nuts or riveted over Nuts ✓

Working Pressure 231. Main stays: Material S Tensile strength 28.32

Diameter At body of stay, 3 3/8" No. of threads per inch 6 Area supported by each stay 381 sq in

Working pressure by Rules 229. Screw stays: Material S Tensile strength 26.30

Diameter At turned off part, 17/8" No. of threads per inch 9 Area supported by each stay 92.5 sq in



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

No. of threads per inch **9"** Area supported by each stay **101 sq"** Working pressure by Rules **244**

Tubes: Material **9100** External diameter **3 1/4"** Thickness **5/16, 3/8"** No. of threads per inch **9**

Pitch of tubes **4 3/8" + 4 1/2"** Working pressure by Rules **231** Manhole compensation: Size of opening in shell plate **16" x 12"** Section of compensating ring **3'-0" x 2'-4" x 1 5/16"** No. of rivets and diameter of rivet holes **32 at 1 5/16"**

Outer row rivet pitch at ends **8 15/16"** 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

How connected to shell Inner radius of crown Working pressure by Rules

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 Manufacturers of Tubes Steel forgings 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

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 forgings and 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 22 inclusive for boilers been complied with **Yes**

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

Dates of Survey { During progress of work in shops - - } Are the approved plans of boiler and superheater forwarded herewith **Yes** (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. **S/S Wellpark Ent. Rpt. No. 20586**

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) **This boiler has been built under special survey in accordance with the approved plan. The workmanship & material are of good quality. Boiler now securely fitted on board. This Report accompanies that of the Machinery**

Survey Fee **£ charged on Machinery Report** When applied for, 19

Travelling Expenses (if any) **£** When received, 19

W. Gordon Sinclair
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 29 SEP 1938**

Assigned **See First Entry Machinery Report.**

