

REPORT ON BOILERS.

No. 45940

Received at London Office

8 SEP 1926

Date of writing Report

192

When handed in at Local Office

4-9-1926

Port of

Glasgow

No. in Survey held at Reg. Book.

Glasgow

Date, First Survey

29th Jan

Last Survey

31-8-1926

on the new steel

S/S "COUNSELLOR"

(Number of Visits 58)

Gross 5068

Net 3158

Master _____ Built at Glasgow By whom built Glasgow By whom built David Rowan & Co. Ld. Yard No. 406 When built 1926

Engines made at Glasgow By whom made David Rowan & Co. Ld. Engine No. 836 When made 1926

Boilers made at Glasgow By whom made David Rowan & Co. Ld. Boiler No. 836 When made 1926

Nominal Horse Power 464 Owners T. & J. Harrison Ltd Port belonging to Liverpool

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel David Boyle & Son Ltd (Letter for Record (12))

Total Heating Surface of Boilers 10750 sq ft Is forced draught fitted no Coal or Oil fired coal

No. and Description of Boilers one single ended Working Pressure 120 lbs

Tested by hydraulic pressure to 230 Date of test 14-4-26 No. of Certificate 17099 Can each boiler be worked separately

Area of Firegrate in each Boiler 33.50 sq ft No. and Description of safety valves to each boiler two direct spring

Area of each set of valves per boiler {per Rule 4.990" as fitted 5.940" Pressure to which they are adjusted 120 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 well clear Is oil fuel carried in the double bottom under boilers no

Smallest distance between shell of boiler and tank top plating no tank Is the bottom of the boiler insulated no

Largest internal dia. of boilers 11'-6" Length 10'-6" Shell plates: Material steel Tensile strength 28-32 tons

Thickness 1 1/16" Are the shell plates welded or flanged no Description of riveting: circ. seams {end 15R inter. 2-32" long. seams DBS, TR Diameter of rivet holes in {circ. seams 13/16" long. seams 13/16" Pitch of rivets {2-32" 5 13/32"

Percentage of strength of circ. end seams {plate 64.9 rivets 53.5 Percentage of strength of circ. intermediate seam {plate 84.9 rivets 86 Working pressure of shell by Rules 125

Percentage of strength of longitudinal joint {plate 84.9 rivets 86 combined 91.4

Thickness of butt straps {outer 1 1/32" inner 2 1/32" No. and Description of Furnaces in each Boiler two plain

Material steel Tensile strength 26-30 tons Smallest outside diameter 3'-5 1/2"

Length of plain part {top 6'-5 3/4" bottom 9'-2" Thickness of plates {crown 5/8" bottom 5/8" Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 124

End plates in steam space: Material steel Tensile strength 26-30 tons Thickness 1 1/16" Pitch of stays 23 3/4" x 15"

How are stays secured W.N. Working pressure by Rules 122

Tube plates: Material {front steel back steel Tensile strength {26-30 tons Thickness {13/16" 23/32" Working pressure {front 152 back 153

Mean pitch of stay tubes in nests 11 3/4" Pitch across wide water spaces 14 1/2" Working pressure {front 152 back 153

Girders to combustion chamber tops: Material steel Tensile strength 28-32 tons Depth and thickness of girder at centre 2 @ 6 1/2" x 9/16" Length as per Rule 2-3 3/32" Distance apart 8 3/4" No. and pitch of stays in each 2 @ 9" Working pressure by Rules 124

Combustion chamber plates: Material steel Tensile strength 26-30 tons Thickness: Sides 1 1/32" Back 9/16" Top 1 1/32" Bottom 1 5/16"

Pitch of stays to ditto: Sides 10" x 8 1/2" Back 9 3/8" x 9" Top 9" x 8 3/4" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 121 Front plate at bottom: Material steel Tensile strength 26-30 tons Thickness 1 3/16" Lower back plate: Material steel Tensile strength 26-30 tons Thickness 5/8"

Pitch of stays at wide water space 13" Are stays fitted with nuts or riveted over nuts

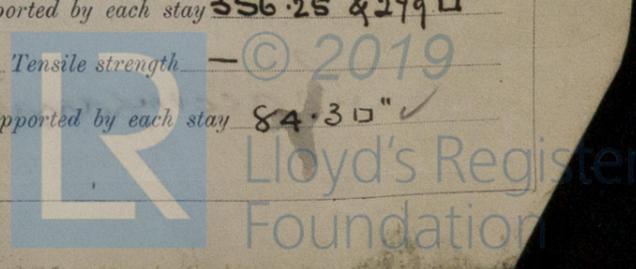
Working Pressure 124 Main stays: Material steel Tensile strength 28-32 tons

Diameter {At turned off part, or Over threads 2 1/4" & 2" No. of threads per inch 6 Area supported by each stay 356.25 & 279 sq"

Working pressure by Rules 120 Screw stays: Material Iron Tensile strength -

Diameter {At turned off part, or Over threads 1 3/8" No. of threads per inch 10 Area supported by each stay 84.30 sq"

W433-0106



Working pressure by Rules 120 Are the stays drilled at the outer ends no Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part, } 1\frac{1}{2}'' \\ \text{or} \\ \text{Over threads} \end{array} \right.$

No. of threads per inch 10 Area supported by each stay: 100.680" Working pressure by Rules 124

Tubes: Material Iron External diameter $\left\{ \begin{array}{l} \text{Plain } 3\frac{1}{2}'' \\ \text{Stay } 3\frac{1}{2}'' \end{array} \right.$ Thickness $\left\{ \begin{array}{l} \text{9 W.G.} \\ \frac{1}{4} \& \frac{5}{16}'' \end{array} \right.$ No. of threads per inch 9

Pitch of tubes 4 $\frac{3}{4}$ " x 4 $\frac{5}{8}$ " Working pressure by Rules 165 Manhole compensation: Size of opening in shell plate 19" x 15" Section of compensating ring 6 $\frac{1}{2}$ " x $\frac{11}{16}$ " No. of rivets and diameter of rivet holes 40 @ $\frac{13}{16}$ "

Outer row rivet pitch at ends 5 $\frac{1}{2}$ " Depth of flange if manhole flanged 6 $\frac{1}{2}$ " x $\frac{11}{16}$ " Steam Dome: Material none

Tensile strength 200 Thickness of shell 1/4" Description of longitudinal joint

Diameter of rivet holes 13/16" Pitch of rivets 5" Percentage of strength of joint $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right.$

Internal diameter 24" Working pressure by Rules 165 Thickness of crown 1/4" No. and diameter of stays 10 @ 1/2"

How connected to shell by doubling plate Inner radius of crown 6" Working pressure by Rules 165 Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell 13/16" @ 5"

Type of Superheater

Manufacturers of $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel castings} \end{array} \right.$

Number of elements 1 Material of tubes Iron Internal diameter and thickness of tubes 3 1/2" x 1/4"

Material of headers Iron Tensile strength 200 Thickness 1/4" Can the superheater be shut off and the boiler be worked separately no

Area of each safety valve 1.5 Are the safety valves fitted with easing gear no Working pressure as per Rules 165 Pressure to which the safety valves are adjusted 165 Hydraulic test pressure: 247.5

tubes castings and after assembly in place no Are drain cocks or valves fitted to free the superheater from water where necessary no

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with yes

The foregoing is a correct description,
for David Rowan & Co., Ltd. } Manufacturer.
Arch. W. Greerson

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of work in shops - -} \\ \text{while building } \left\{ \begin{array}{l} \text{During erection on board vessel - - -} \end{array} \right. \end{array} \right.$

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
See Machinery Report Total No. of visits 58

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

The materials and workmanship are good.
The boiler has been constructed under Special Survey in accordance with the Rules. It has been satisfactorily fitted on the upper deck of the vessel and its safety valves adjusted under steam.

Survey Fee £ 4 : 4 : } When applied for, 3/9/1926
Travelling Expenses (if any) £ : : } When received, 7/9/1926

S. C. Davis.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 7-SEP 1926

Assigned See accompanying Mech. Report.



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Foundation

2/9/26