

## REPORT ON BOILERS.

No. 30475

Received at London Office

10 OCT 1930

Date of writing Report

1930

When handed in at Local Office

9 OCT. 1930

Port of SUNDERLAND.

No. in Survey held at  
Reg. Book.

SUNDERLAND.

Date, First Survey

Last Survey

7 Oct 1930

(Number of Visits)

Gross

Tons

Net

on the S.S. "GOWER"

Master

Built at GOOLE.

By whom built GOOLE S.B. &amp; R.C. LD.

Yard No. 291. When built 1930.

Engines made at SUNDERLAND.

By whom made N.E. MARINE ENG. CO. LD.

Engine No. 2753 When made 1930

Boilers made at SUNDERLAND.

By whom made N.E. MARINE ENG. CO. LD.

Boiler No. 2753 When made 1930

Nominal Horse Power

171.

Owners

J.E. FISHER &amp; CO.

Port belonging to

SWANSEA

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

Manufacturers of Steel THYSSEN STEEL CO. MULHEIM. RUHR. &amp; STEEL CO. OF SCOTLAND. (Letter for Record (S))

Total Heating Surface of Boilers 2940  $\text{sq. ft.}$  Is forced draught fitted No. Coal or Oil fired COAL.No. and Description of Boilers 2 CYLINDRICAL MARINE TYPE. 2SB. Working Pressure 180  $\text{lb.}$ Tested by hydraulic pressure to 320  $\text{lb.}$  Date of test 17-6-30 No. of Certificate 4104 Can each boiler be worked separately Yes.Area of Firegrate in each Boiler 38.75  $\text{sq. ft.}$  No. and Description of safety valves to each boiler 2 SPRING LOADED.Area of each set of valves per boiler { per Rule 9.42  $\text{sq. in.}$  as fitted 9.8  $\text{sq. in.}$  Pressure to which they are adjusted 185  $\frac{1}{2}$   $\text{lb.}$  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 3'-3" Is oil fuel carried in the double bottom under boilers No.

Smallest distance between shell of boiler and tank top plating 1'-9" Is the bottom of the boiler insulated No.

Largest internal dia. of boilers 12'-9  $\frac{15}{16}$ " Length 10'-6" Shell plates: Material Steel Tensile strength 29/33 Tm. end D.R. LAP.Thickness 1  $\frac{1}{32}$ " Are the shell plates welded or flanged No. Description of riveting: circ. seams { end 3  $\frac{3}{8}$ " inter. 3  $\frac{3}{8}$ "long. seams T.R.D.B. Shop. Diameter of rivet holes in { circ. seams 1  $\frac{3}{32}$ " long. seams 1  $\frac{3}{32}$ " Pitch of rivets { 7  $\frac{3}{4}$ "

Percentage of strength of circ. end seams { plate 67.5 rivets 42.8 Percentage of strength of circ. intermediate seam { plate 85 rivets 85

Percentage of strength of longitudinal joint { plate 85.8 rivets 87.3 combined 89.1 Working pressure of shell by Rules 182.2  $\text{lb.}$ 

Thickness of butt straps { outer 25/32" inner 29/32" No. and Description of Furnaces in each Boiler 2 CORRUGATED, Doughton Section.

Material Steel Tensile strength 26/30 Tm. Smallest outside diameter 3'-6  $\frac{5}{16}$ "

Length of plain part { top - bottom - Thickness of plates { crown 7/32" bottom 7/32" Description of longitudinal joint Weld.

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 181.5  $\text{lb.}$ End plates in steam space: Material Steel Tensile strength 26/30 Tm. Thickness 1  $\frac{3}{32}$ " Pitch of stays 21" x 18"How are stays secured D. Nuts. Working pressure by Rules 181.2  $\text{lb.}$ 

Tube plates: Material { front Steel back Steel Tensile strength { 26/30 Tm. Thickness { 7/8" 25/32"

Mean pitch of stay tubes in nests 10.75" Pitch across wide water spaces 14  $\frac{1}{2}$ " x 9  $\frac{1}{4}$ " Working pressure { front 188  $\text{lb.}$  back 188  $\text{lb.}$ 

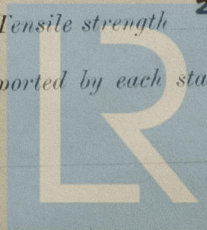
Girders to combustion chamber tops: Material Steel Tensile strength 28/32 Tm. Depth and thickness of girder

at centre 8  $\frac{1}{4}$ " x 1  $\frac{5}{8}$ " Length as per Rule 31  $\frac{1}{2}$ " Distance apart 10  $\frac{1}{2}$ " No. and pitch of staysin each 2 at 10" Working pressure by Rules 184  $\text{lb.}$  Combustion chamber plates: Material Steel

Tensile strength 26/30 Tm. Thickness: Sides 3/4" Back 23/32" Top 3/4" Bottom 3/4"

Pitch of stays to ditto: Sides 10  $\frac{7}{8}$ " x 10" Back 10  $\frac{7}{8}$ " x 9  $\frac{1}{4}$ " Top 10  $\frac{1}{2}$ " x 10" Are stays fitted with nuts or riveted over Nuts.Working pressure by Rules 181.7  $\text{lb.}$  Front plate at bottom: Material Steel Tensile strength 26/30 Tm.

Thickness 7/8" Lower back plate: Material Steel Tensile strength 26/30 Tm. Thickness 29/32"

Pitch of stays at wide water space 15" x 10  $\frac{7}{8}$ " Are stays fitted with nuts or riveted over Nuts.Working Pressure 199  $\text{lb.}$  Main stays: Material Steel Tensile strength 28/32 Tm.Diameter { At body of stay, 2  $\frac{7}{8}$ " No. of threads per inch 6 Area supported by each stay 378  $\text{sq. in.}$  Over threads 3  $\frac{1}{4}$ "Working pressure by Rules 190  $\text{lb.}$  Screw stays: Material Steel Tensile strength 26/30 Tm.Diameter { At turned off part, 1  $\frac{3}{4}$ " No. of threads per inch 9 Area supported by each stay 98.3  $\text{sq. in.}$  Over threadsLloyd's Register  
Foundation

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Working pressure by Rules 183 1/16. Are the stays drilled at the outer ends No. Margin stays: Diameter <sup>At turned off part.</sup> 2" <sup>or</sup> Over threads

No. of threads per inch 9. Area supported by each stay 128.8 sq Working pressure by Rules 191 1/16.

Tubes: Material Steel External diameter <sup>Plain</sup> 3 1/2" <sup>Stay</sup> 3 1/4" Thickness <sup>8 w.g.</sup> 1/4" 3 9/16" No. of threads per inch 9.

Pitch of tubes 4 5/8" x 4 5/8" Working pressure by Rules 230, 187, 191 1/16 Manhole compensation: Size of opening in end. 16' x 12' Section of compensating ring ✓ No. of rivets and diameter of rivet holes ✓

Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged 3 7/8" Steam Dome: Material ✓

Tensile strength Thickness of shell Description of longitudinal joint

Diameter of rivet holes Pitch of rivets Percentage of strength of joint <sup>Plate</sup> ✓ <sup>Rivets</sup> ✓

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 <sup>Tubes</sup> ✓ <sup>Steel castings</sup> ✓

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, 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.

FOR THE NORTH EASTERN MARINE ENGINEERING CO. LTD.  
The foregoing is a correct description,  
John Neill Manufacturer.

Dates of Survey <sup>During progress of work in shops - -</sup> Please see Mech. Rpt. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

<sup>while building</sup> <sup>During erection on board vessel - - -</sup> Total No. of visits

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The Boilers of this vessel have been built under Special Survey. The materials & workmanship are good. On completion they were satisfactorily fitted in the vessel and examined under a full head of steam. The Safety Valves were adjusted under steam and accumulation test carried out satisfactorily.

For Notation see Machinery Report.

Survey Fee ... .. £ Charged on Machinery Report. When applied for, 192

Travelling Expenses (if any) £ When received, 192

Committee's Minute TUE. 11 NOV 1930

Assigned See other report

J. B. Smith &  
Engineer Surveyors to Lloyd's Register of Shipping.  
Matthew Caldwell