

## REPORT ON BOILERS.

No. 30275

Received at London Office

1 FEB 1930

31 JAN. 1930

Date of writing Report

192

When handed in at Local Office

192

Port of Sunderland

No. in Survey held at

Sunderland

Date, First Survey

Last Survey

27 Jan 1930

on the

S.S. "HOLME FORCE"

(Number of Visits

Gross

Tons

Net

Master

Built at

Goole.

By whom built

Messrs The Goole Ship Co.

Yard No.

286

When built

1930

Engines made at

Sunderland

By whom made

Messrs MacLellan &amp; Pollock Ltd.

Engine No.

367

When made

1930

Boilers made at

Sunderland

By whom made

Messrs MacLellan &amp; Pollock Ltd.

Boiler No.

367

When made

1930

Nominal Horse Power

144

Owners

West Coast Shipping Co. Ltd.

Port belonging to

Whitehaven

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

Manufacturers of Steel The Steel Co. of Scotland, Frodingham Iron Works &amp; James Dunlop &amp; Co. (Letter for Record (5) )

Total Heating Surface of Boilers

2625 sq ft

Is forced draught fitted

No.

Coal or Oil fired

Coal.

No. and Description of Boilers

Two. S.E. Mannie Type. 2 SB

Working Pressure

180 lbs/sq in

Tested by hydraulic pressure to

320 lbs

Date of test

26.9.29

No. of Certificate

4060

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

40.56 sq ft

No. and Description of safety valves to each boiler

2. Spring Loaded.

Area of each set of valves per boiler

per Rule

8.40 sq in

as fitted

9.80 sq in

Pressure to which they are adjusted

185 lbs/sq in

Are they fitted with easing gear

Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

3' 6"

Is oil fuel carried in the double bottom under boilers

No.

Smallest distance between shell of boiler and

TOP OF FLOORS

and top plating

2' 4"

Is the bottom of the boiler insulated

No.

Largest internal dia. of boilers

12' 6"

Length

10' 2 1/2"

Shell plates: Material

Steel

Tensile strength

29.33 tons/sq in

Thickness

1"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

end

inter.

Long. seams

T.R. D.B. Strap.

Diameter of rivet holes in

circ. seams

1 1/8"

long. seams

1 1/16"

Pitch of rivets

3 3/8"

7 9/16"

Percentage of strength of circ. end seams

plate

70%

rivets

42.1%

Percentage of strength of circ. intermediate seam

plate

85.95%

rivets

87.18%

Percentage of strength of longitudinal joint

plate

85.95%

rivets

87.18%

combined

89.3%

Working pressure of shell by Rules

181 lbs/sq in

Thickness of butt straps

outer

13/16"

inner

15/16"

No. and Description of Furnaces in each Boiler

2. Corrugated Right Hand Section

Material

S.M. Steel

Tensile strength

26.30 tons/sq in

Smallest outside diameter

45 3/8"

Length of plain part

top

bottom

Thickness of plates

crown

bottom

9/16"

Description of longitudinal joint

Welded.

Dimensions of stiffening rings on furnace or c.c. bottom

Working pressure of furnace by Rules

180 lbs/sq in

End plates in steam space: Material

S.M. Steel

Tensile strength

26.30 tons/sq in

Thickness

1 1/16"

Pitch of stays

19" x 14 1/2"

How are stays secured

Double Nuts.

Working pressure by Rules

180 lbs/sq in

Tube plates: Material

front

S.M. Steel

Tensile strength

26.30 tons/sq in

Thickness

29/32"

back

S.M. Steel

Mean pitch of stay tubes in nests

11-125"

Pitch across wide water spaces

14 1/4"

Working pressure

front

201 lbs/sq in

back

192 lbs/sq in

Girders to combustion chamber tops: Material

S.M. Steel

Tensile strength

29.33 tons/sq in

Depth and thickness of girder

at centre

2-1/2" x 7" plates

Length as per Rule

30.25"

Distance apart

8 1/2"

No. and pitch of stays

in each

2 - 9 1/2"

Working pressure by Rules

183 lbs/sq in

Combustion chamber plates: Material

S.M. Steel

Tensile strength

26.30 tons/sq in

Thickness: Sides

1 1/16"

Back

2 1/32"

Top

1 1/16"

Bottom

15/16"

Pitch of stays to ditto: Sides

8 1/8" x 9 1/2"

Back

9" x 9 1/4"

Top

9 1/2" x 8 1/2"

Are stays fitted with nuts or riveted over

Nuts.

Working pressure by Rules

Back heat. 180 lbs/sq in

Front plate at bottom: Material

S.M. Steel

Tensile strength

26.30 tons/sq in

Thickness

29/32"

Lower back plate: Material

S.M. Steel

Tensile strength

26.30 tons/sq in

Thickness

3/4"

Pitch of stays at wide water space

13" x 9"

Are stays fitted with nuts or riveted over

Nuts.

Working Pressure

215 lbs/sq in

Main stays: Material

S.M. Steel

Tensile strength

28.32 tons/sq in

Diameter

At body of stay,

2 5/8"

Over threads

No. of threads per inch

6

Area supported by each stay

275.5 sq in

Working pressure by Rules

180

Screw stays: Material

S.M. Steel

Tensile strength

26.30 tons/sq in

Diameter

At turned off part,

15/8" &amp; 1 3/4"

Over threads

No. of threads per inch

9

Area supported by each stay

83.25 sq in



Working pressure by Rules  $182 \cdot 8/16$  Are the stays drilled at the outer ends ☒ Margin stays: Diameter  $1 \frac{3}{4}$ " ☒ At turned off part, or Over threads  $1 \frac{3}{4}$ " ☒

No. of threads per inch 9 Area supported by each stay  $100 \cdot 125/15$  Working pressure by Rules  $181 \cdot 1/16$

Tubes: Material L.W. Gun. External diameter  $3 \frac{1}{4}$ " Plain  $3 \frac{1}{4}$ " Thickness  $1/4$ " 8 5/16 No. of threads per inch 9

Pitch of tubes  $13 \frac{1}{2}$ " x  $8 \frac{3}{4}$ " Working pressure by Rules  $180 \cdot 1/16$  Manhole compensation: Size of opening in shell plate  $16$ " x  $12$ " Section of compensating ring  $7 \frac{1}{4}$ " x  $1$ " No. of rivets and diameter of rivet holes  $32 - 1 \frac{1}{16}$ "

Outer row rivet pitch at ends  $7 \frac{9}{16}$ " 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

Number of elements Material of tubes Manufacturers of Tubes Steel castings 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 ☒

The foregoing is a correct description,  
PER PRO MACCOLL & POLLOCK LTD.

Manufacturer.

Dates of Survey { During progress of work in shops - - }  
while building { During erection on board vessel - - }

Please see Mach. Rpt.

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) ☒

Total No. of visits

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) These Boilers have been built under Special Survey and the Materials and Workmanship are good. On completion they were satisfactorily fitted in the Vessel and the Safety Valves adjusted under steam. For recommendation regarding Rotation see Machinery Report.

Survey Fee ...  $\pm$  Changed as Mach. Report. When applied for, 192

Travelling Expenses (if any)  $\pm$  When received, 192

Matthew Caldwell.  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TI 4 MAR 1930

Assigned

See Hull J.E. 40622



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Foundation