

## REPORT ON BOILERS.

No. 30086

Received at London Office

31 JUL 1929

Date of writing Report 27<sup>th</sup> July 1929 When handed in at Local Office 30 JULY 1929 Port of Sunderland

No. in Reg. Book. Survey held at

Sunderland

Date, First Survey

Last Survey

July 26 1929

(Number of Visits

Gross

1576

Tons

Net 891

on the

S.S. "JOHN CHARRINGTON"

Master

Built at

Sunderland

By whom built

Messrs. John Brown &amp; Sons Ltd. Yard No. 181

When built 1929

Engines made at

Sunderland

By whom made

Messrs. The North Eastern Marine Eng. Co. Ltd.

Engine No. 2707 When made 1929

Boilers made at

Sunderland

By whom made

Messrs. The North Eastern Marine Eng. Co. Ltd.

Boiler No. 2707 When made 1929

Nominal Horse Power

226

Owners

Charrington, Gardner, Lochet &amp; Co. Port belonging to London

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

STAYS:—Messrs. The Steel Company of Scotland Limited.

Manufacturers of Steel

PLATES:—Messrs. Witkowitz Bergab. und Eisenhütten-Gesellschaft, Witkowitz

(Letter for Record (S)

Czechoslovakia.

Total Heating Surface of Boilers

3980 sq ft

Is forced draught fitted

no

Coal or Oil fired

Coal

No. and Description of Boilers

Two - Single Ended Marine Type

2. S.B.

Working Pressure 180 lbs sq"

Tested by hydraulic pressure to

320 lbs sq"

Date of test

25.6.29

No. of Certificate

4040

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

50 sq ft

No. and Description of safety valves to each boiler

Two - Direct Spring Loaded

Area of each set of valves per boiler

(per Rule 12.76 sq"

(as fitted 14.137 sq"

Pressure to which they are adjusted

185 lbs sq"

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 boiler uptakes and bunkers

18"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

2'-11"

Is the bottom of the boiler insulated

no

Largest internal dia. of boilers

14'-3 3/32"

Length

10'-6" (FULL)

Shell plates: Material

Steel

Tensile strength 29-33 tons sq"

Thickness

1 9/64"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

D.R. Lap.

long. seams

T.R.D.B.S.

Diameter of rivet holes in

(circ. seams 1 3/16"

(long. seams 1 3/16"

Pitch of rivets

3 1/2"

8 1/16"

Percentage of strength of circ. end seams

(plate 66

(rivets 43.7

Percentage of strength of circ. intermediate seam

(plate

(rivets

Percentage of strength of longitudinal joint

(plate 85.9

(rivets 88.5

(combined 88.9

Working pressure of shell by Rules 181 lbs sq"

Thickness of butt straps

(outer 7/8"

(inner 1"

No. and Description of Furnaces in each Boiler

Three Corrugated Deighton Section

Material

Steel

Tensile strength

26-30 tons sq"

Smallest outside diameter

3'-2 1/32"

Length of plain part

(top

(bottom

Thickness of plates

(crown 3/64"

(bottom 3/64"

Description of longitudinal joint

Welded.

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

Working pressure of furnace by Rules

182 lbs sq"

End plates in steam space: Material

Steel

Tensile strength

26-30 tons sq"

Thickness

1 1/4"

Pitch of stays

21" x 19"

How are stays secured

Double nuts.

Working pressure by Rules

182 lbs sq"

Tube plates: Material

(front Steel

(back Steel

Tensile strength

26-30 tons sq"

Thickness

7/8"

3/4"

Mean pitch of stay tubes in nests

10.5"

Pitch across wide water spaces

14 1/2"

Working pressure

(front 193 lbs sq"

(back 182 lbs sq"

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 tons sq"

Depth and thickness of girder

at centre

8 1/8" x 1 1/2"

Length as per Rule

30.53"

Distance apart

10"

No. and pitch of stays

in each

2 @ 9 1/2"

Working pressure by Rules

183 lbs sq"

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons sq"

Thickness: Sides

23/32"

Back

23/32"

Top

23/32"

Bottom

23/32"

Pitch of stays to ditto: Sides

10 1/2" x 9 1/2"

Back

10 1/2" x 9 1/2"

Top

10" x 9 1/2"

Are stays fitted with nuts or riveted over

Fitted with nuts.

Working pressure by Rules

181 lbs sq"

(SIDES + WINGS BACKS. LEAST.

Front plate at bottom: Material

Steel

Tensile strength

26-30 tons sq"

Thickness

7/8"

Lower back plate: Material

Steel

Tensile strength

26-30 tons sq"

Thickness

7/8"

Pitch of stays at wide water space

14 1/2"

Are stays fitted with nuts or riveted over

Fitted with nuts.

Working Pressure

185 lbs sq"

Main stays: Material

Steel

Tensile strength

28-32 tons sq"

Diameter

(At body of stay, 2 7/8"

(Over threads, 3 1/4"

No. of threads per inch

6

Area supported by each stay

399 sq"

Working pressure by Rules

180 lbs sq"

Screw stays: Material

Steel

Tensile strength

26-30 tons sq"

Diameter

(At turned off part, 1 3/4"

(Over threads, 1 7/8"

No. of threads per inch

9

Area supported by each stay

99.75 sq" &amp; 118.10"

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Working pressure by Rules <sup>1 3/4" stays - 181 lb.</sup> <sup>1 7/8" - 180 lb.</sup> Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 1 7/8" Over threads }  
No. of threads per inch 9 Area supported by each stay 118.1 sq" Working pressure by Rules 180 lb.  
Tubes: Material Steel External diameter { Plain 3 1/4" Stay 3 1/4" Thickness { 8 W.G. 1/4" & 5/16" No. of threads per inch 9  
Pitch of tubes 4 1/2" x 4 5/8" Working pressure by Rules PLAIN - 230 lb. STAY - 195 lb. 193" Manhole compensation: Size of opening in  
END plate 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 1/4" 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**

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 Yes.

The foregoing is a correct description,  
THE NORTH EASTERN MARINE ENGINEERING CO. LTD.

John Neill Manufacturer.  
Manager.

Dates of Survey { During progress of work in shops - - - } Please see Machinery Report Are the approved plans of boiler and superheater forwarded herewith Yes.  
{ While building } { During erection on board vessel - - - }  
(If not, state date of approval.)  
Total No. of visits

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

The Boilers have been built under Special Survey and the Materials and Workmanship are good. On Completion they were satisfactorily fitted in the vessel. For notation please see Machinery Report.

Survey Fee ... £ Charged on Machinery Report  
Travelling Expenses (if any) £ When applied for, 192  
When received, 192

Alfred Lee

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 2 AUG 1929

Assigned

See M.R. rpt. attached



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