

REPORT ON BOILERS.

Std. No. 29313

Reg. No. 80612

10 SEP 1926

30 SEP 1926

Received at London Office

Date of writing Report

192

When handed in at Local Office

8. 9. 1926

Port of Newcastle-on-Tyne

No. in Survey held at Reg. Book.

Date, First Survey

9th Feb

Last Survey

4th Aug

1926

(Number of Visits

20)

Gross

5019

Tons

Net

3024

Master

Built at

Sunderland

By whom built

W. Pickersill & Sons, Ltd.

Yard No.

217

When built

1926

Engines made at

Newcastle-on-Tyne

By whom made

Carrons Marine Steam Turbine Co. Ltd.

Engine No.

236

When made

1926

Boilers made at

Newcastle-on-Tyne

By whom made

Hughes Eastern Marine Eng. Co. Ltd.

Boiler No.

2623

When made

1926

Nominal Horse Power

Owners

Carrons, Noble & Co.

Port belonging to

Newcastle

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

David Colville & Sons Ltd.

(Letter for Record S. ✓)

Total Heating Surface of Boilers

6645 sq ft

Is forced draught fitted

Yes

Coal or Oil fired

Coal

No. and Description of Boilers

Three single-ended cylindrical

Working Pressure

180 lbs

Tested by hydraulic pressure to

320 lbs

Date of test

10.6.26

No. of Certificate

108

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 Spring-loaded

Area of each set of valves per boiler

per Rule

14.1 sq ft

as fitted

16.59 sq ft

Pressure to which they are adjusted

185 lbs

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

1'-8"

Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating

2'-5"

Is the bottom of the boiler insulated

Largest internal dia. of boilers

14'-3 1/2"

Length

12'-0"

Shell plates: Material

Steel

Tensile strength

28 1/2 - 32 1/2 tons

Thickness

1 5/32"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

end

Double

long. seams

Double - Double butt straps

Diameter of rivet holes in

circ. seams

1 5/8"

long. seams

1 3/16"

Pitch of rivets

3 3/4"

8 3/8"

Percentage of strength of circ. end seams

plate

80.6

rivets

80.6

Percentage of strength of circ. intermediate seam

plate

85.8

rivets

86.4

Percentage of strength of longitudinal joint

plate

85.8

rivets

86.4

combined

89

Working pressure of shell by Rules

181 lbs

Thickness of butt straps

outer

3/8"

inner

1"

No. and Description of Furnaces in each Boiler

Three Repton

Material

Steel

Tensile strength

26-30 tons

Smallest outside diameter

39 7/8"

Length of plain part

top

bottom

Thickness of plates

crown

9 1/16"

bottom

Description of longitudinal joint

Welded

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

Working pressure of furnace by Rules

204 lbs

End plates in steam space: Material

Steel

Tensile strength

26-30 tons

Thickness

1 7/16"

Pitch of stays

26" x 19 3/4"

How are stays secured

Double nuts

Working pressure by Rules

18 1/2 lbs

Tube plates: Material

front

Steel

back

Steel

Tensile strength

26-30 tons

26-30 tons

Thickness

1 5/16"

3/4"

Mean pitch of stay tubes in nests

8 1/2"

Pitch across wide water spaces

14 3/4"

Working pressure

front

18 1/2 lbs

back

278 lbs

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 tons

Depth and thickness of girder

at centre

10 1/2" - 1 1/2"

Length as per Rule

39"

Distance apart

9 1/4"

No. and pitch of stays

in each

Three - 9"

Working pressure by Rules

181 lbs

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons

Thickness: Sides

2 1/2"

Back

2 3/32"

Top

2 1/2"

Bottom

1 5/16"

Pitch of stays to ditto: Sides

9 1/4" x 9"

Back

10 1/2" x 9 1/2"

Top

9 1/4" x 9"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

180 lbs

Front plate at bottom: Material

Steel

Tensile strength

26-30 tons

Thickness

1 5/16"

Lower back plate: Material

Steel

Tensile strength

26-30 tons

Thickness

3/8"

Pitch of stays at wide water space

14 3/4"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

196 lbs

Main stays: Material

Steel

Tensile strength

28-32 tons

Diameter

At body of stay,

3 1/4"

Over threads,

3 1/2"

No. of threads per inch

Six

Area supported by each stay

513.5 sq in

Working pressure by Rules

180 lbs

Screw stays: Material

Steel

Tensile strength

26-30 tons

Diameter

At turned off part,

1 5/8"

Over threads,

1 3/4"

No. of threads per inch

Nine

Area supported by each stay

83 1/2 sq in

Working pressure by Rules 182 lbs. Are the stays drilled at the outer ends *no* ✓ Margin stays: Diameter { At turned off part, or Over threads *2"* ✓

No. of threads per inch: *nine* ✓ Area supported by each stay *119.9 sq"* Working pressure by Rules *206 lbs*

Tubes: Material *lm* ✓ External diameter { Plain *3"* ✓ Stay *3"* ✓ Thickness { *no. 8 S.W.G.* *1/4" - 5/16"* No. of threads per inch *nine*

Pitch of tubes *4 1/4"* ✓ Working pressure by Rules *plain 250 lbs. Stay 194 lbs.* Manhole compensation: Size of opening in shell *16" x 12"* ✓ Section of compensating ring *none* ✓ No. of rivets and Diameter of rivet holes ✓

Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged *4 3/8"* ✓ Steam Dome: Material *none* ✓

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 *North Eastern* Manufacturers of { Tubes *Jules Ltd. Birmingham* ✓ Steel castings

Number of elements *171* Material of tubes *S.D. Steel* Internal diameter and thickness of tubes *17mm. 2 1/2 mm*

Material of headers *Ingot Steel* Tensile strength *26-30 tons* Thickness *7/8"* Can the superheater be shut off and the boiler be worked separately *yes* Is a safety valve fitted to every part of the superheater which can be shut off from the boiler *yes*

Area of each safety valve *3.14 sq"* Are the safety valves fitted with casing gear *yes* Working pressure as per Rules *180 lbs.* Pressure to which the safety valves are adjusted *190 lbs. (Std)* Hydraulic test pressure: tubes *1500 lbs. sq"* ✓ and after assembly in place *450 lbs. sq"* Are drain cocks or valves fitted to free the superheater from water where necessary *yes*

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

The foregoing is a correct description of the boiler and superheater.

Blountell Allen Manufacturer.

SECRETARY,

1926

Dates of Survey { During progress of work in shops - - { *Feb. 9. 17. 22. Mar. 10. 18. 19. 23.* Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

while building { During erection on board vessel - - - { *Apr. 26. 29. May 3. 4. 7. 10. 14. 28. 31. June 4. 10. July 1. Aug 4.*

Total No. of visits *20*

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

These Boilers have been constructed under Special Survey. The materials and workmanship are sound and good. They have been satisfactorily tested by hydraulic pressure. The superheaters have been tested in accordance with the rules. In my opinion the Boilers are eligible for a vessel classed with this Society.

Survey Fee ... : : When applied for, 102

Travelling Expenses (if any) £ : : When received, 102

R. Lee Amess
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 5 OCT 1926

Assigned *See Minute on Ave. 2E.*
80612



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