

## REPORT ON BOILERS.

No. 50966

Received at London Office

DEC -5 1940

Date of writing Report

19

When handed in at Local Office

DEC 1940

Port of

HULL

No. in Reg. Book.

Survey held at

Hull &amp; Selby.

Date, First Survey

9.12.39

Last Survey

22.11.

1940

on the

Single Screw Tug.

"PRUDENT"

(Number of Visits

Tons

Gross 597  
Net 5.

Built at

Selby.

By whom built

Cochrane &amp; Sons Ltd

Yard No. 1218

When built 1940-

Engines made at

Hull.

By whom made

Charles D Holmes Ltd.

Engine No. 1563

When made 1940-

Boilers made at

do

By whom made

do

Boiler No. do

When made do

Nominal Horse Power

222

Owners

The Admiralty

Port belonging to

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

Manufacturers of Steel

(Letter for Record

S.

Total Heating Surface of Boilers

3550 sq. ft.

Is forced draught fitted

Yes

Coal or Oil fired

Oil

No. and Description of Boilers

One S.B.

Working Pressure

210 lb/sq. in.

Tested by hydraulic pressure to

365 lb/sq. in.

Date of test

30.7.40

No. of Certificate

4034

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

2-Spring loaded - High lift.

Area of each set of valves per boiler

per Rule

16.14

as fitted

16.59

Pressure to which they are adjusted

210 lb/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

Smallest distance between boilers or uptakes and bunkers or woodwork

2 feet

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

17'-0"

Length

11'-6"

Shell plates: Material

Steel

Tensile strength

31/35 tons/sq. in.

Thickness

1 15/32"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

D.R. lap

long. seams

T.R.

D.B.S.

Diameter of rivet holes in

circ. seams

1 7/16"

long. seams

1 17/32"

Pitch of rivets

3 13/16"

10 1/16"

Percentage of strength of circ. end seams

plate 62.4%

rivets 43.1%

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 85.0%

rivets 86.7%

combined 87.3%

Thickness of butt straps

outer 1 1/8"

inner 1 1/4"

No. and Description of Furnaces in each Boiler

3. Cf. Diagram Section

Material

Steel

Tensile strength

26/30 tons/sq. in.

Smallest outside diameter

4'-3 1/2"

Length of plain part

top

bottom

Thickness of plates

crown

3/4"

Description of longitudinal joint

lapped

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

None.

End plates in steam space: Material

Steel

Tensile strength

26/30 tons/sq. in.

Thickness

1 3/16"

Pitch of stays

16 x 20 3/4"

How are stays secured

Double nut &amp; washers.

Tube plates: Material

front Steel

back Steel

Tensile strength

26/30 tons/sq. in.

Thickness

15/16"

29/32"

Mean pitch of stay tubes in nests

9 9/16"

Pitch across wide water spaces

13 1/2" x 8 1/2"

Girders to combustion chamber tops: Material

Steel

Tensile strength

29/38 tons/sq. in.

Depth and thickness of girder

at centre

9" x 7 1/8" x 2"

Length as per Rule

2-8 3/32"

Distance apart

9 3/4"

No. and pitch of stays

in each

3 in No. - 7 3/4"

Combustion chamber plates: Material

Steel

Tensile strength

26/30 tons/sq. in.

Thickness: Sides

23/32"

Back

23/32"

Top

1 1/16"

Bottom

7/8"

Pitch of stays to ditto: Sides

8 1/2" x 10"

Back

9 1/2" x 8 7/8"

Top

7 3/4" x 9 3/4"

Are stays fitted with nuts or riveted over

Cuts.

Front plate at bottom: Material

Steel

Tensile strength

26/30 tons/sq. in.

Thickness

15/16"

Lower back plate: Material

Steel

Tensile strength

26/30 tons/sq. in.

Thickness

27/32"

Pitch of stays at wide water space

13 3/4" x 8 7/8"

Are stays fitted with nuts or riveted over

Cuts.

Main stays: Material

Steel

Tensile strength

28/32 tons/sq. in.

Diameter

At body of stay,

or

Over threads

3 1/8"

No. of threads per inch

8.

Screw stays: Material

Steel

Tensile strength

26/30 tons/sq. in.

Diameter

At turned off part,

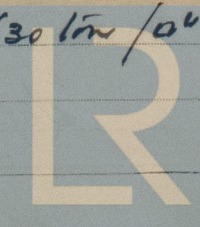
or

Over threads

1 3/4"

No. of threads per inch

9.



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Foundation

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cyo

Margin stays: Diameter { At turned off part, 2 1/8"  
or 1 3/4"  
Over threads! 1 3/4" x 2 1/8"

9

**Tubes:** Material 4 W. Iron External diameter  $\left\{ \begin{array}{l} \text{Plain} \quad 3'' \\ \text{Stay} \quad 3'' \end{array} \right.$  Thickness  $\left\{ \begin{array}{l} 8/16 \\ 9/16 \\ 10/16 \end{array} \right.$  No. of threads per inch 10.

Pitch of tubes  $4\frac{1}{4}"$  ✗  $4\frac{1}{4}"$  ✓

shell plate  $16'' \times 12''$  Section of compensating ring  $13\frac{7}{16}'' \times 1\frac{13}{32}''$  No. of rivets and diameter of rivet holes 15 -  $1\frac{1}{32}''$

Outer row rivet pitch at ends 10 1/16" Depth of flange <sup>bottom</sup> if/manhole flanged 3 3/8" Steam Dome: Material CYone

Tensile strength \_\_\_\_\_ Thickness of shell \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_

Diameter of rivet holes	Pitch of rivets	Percentage of strength of joint	Plate Rivets
8.51	3.00	100	100

Description of specimen		
Internal diameter	Thickness of crown	No. and diameter of

Inner radius of crown

How connected to shell \_\_\_\_\_ Size of doubling plate under dome \_\_\_\_\_ Diameter of rivet holes and pitch \_\_\_\_\_

of minute in outer row in some connection to shell

None

Manufacturers of

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 \_\_\_\_\_

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

Pressure to which the safety valves are adjusted	Hydraulic test pressure
--	-------------------------

forings and castings and after assembly in place Are drain cocks on

less fit to face the overhauling from under where necessary

11. All requirements of Sections 14 to 22 inclusive for boilers have been complied with Yes

*The foregoing is a correct description,*  
FOR CHARLES D. HOLMES & CO., LTD.  
*Manufacturers*

Dates of Survey { During progress of work in shops - - } Are the approved plans of boiler and superheater forwarded herewith 20/10/99  
 while building { During erection on board vessel } (If not state date of approval.)  
 See below left herewith Total No. of visits 1

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. ASSURANCE. Hull Rpt No.

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

This boiler has been constructed under Special Survey & in accordance with the Rules & the approved plans. The workmanship & materials are good & when tested by hydrostatic pressure it was found tight & satisfactory in every respect.

Survey Fee ... £ : : When applied for, \_\_\_\_\_ 19\_\_\_\_

Travelling Expenses (if any) £ : : When received, \_\_\_\_\_ 19\_\_\_\_

*L. B. P.*

19  
19  
Lipley & Patterson  
Engineer, Surveyor to L

*Engineer Surveyor to Lloyd's Register of Shipping.*

Committee's Minute

Assigned *See Ind. at 6, 30960*

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