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REPORT ON BOILERS.

No. 14,795

Received at London Office

29 DEC 1949

Date of writing Report

19

When handed in at Local Office

19

Port of

Belfast

No. in Survey held at
Reg. Book.

Belfast.

Date, First Survey

March 11th 1949

Last Survey

July 1st 1949

(Number of Visits

22)

Gross

8400

Tons

Net

Master

Built at

Glasgow

By whom built

Harland & Wolff Ltd.

Yard No.

13949

When built 1949

Engines made at

Glasgow

By whom made

do

Engine No.

13949

When made 1949

Boilers made at

Belfast.

By whom made

Harland & Wolff Ltd.

Boiler No.

13976

When made 1949

Nominal Horse Power

Owners

British Tanker Co Ltd

Port belonging to

London

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Colvilles.

(Letter for Record 5)

Total Heating Surface of Boilers

2047 x 2 ft

Is forced draught fitted

Yes

Coal or Oil fired oil & gas.

No. and Description of Boilers

2 Cylindrical Smoke tube type.

Working Pressure 150 lbs. sq. in.

Tested by hydraulic pressure to

275 lbs.

Date of test

27.6.49.

No. of Certificates

1424.

Can each boiler be worked separately

Yes.

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

1 @ 2 1/2" dia improved high lift double safety valve.

Area of each set of valves per boiler

per Rule

7.75 sq. in.

as fitted

8.0 sq. in.

Pressure to which they are adjusted 150 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

Adequate

Is oil fuel carried in the double bottom under boilers

Yes

Smallest distance between shell of boiler and tank top plating

2' 4"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

12' 10 3/8"

Length

11' 6"

Shell plates: Material

Steel

Tensile strength

29-33 tons sq. in.

Thickness

29/32"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

end

DR.

long. seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams

1 3/32"

long. seams

1 1/32"

Pitch of rivets

3-08"

6 9/16"

Percentage of strength of circ. end seams

plate

64.5.

rivets

53.0

Percentage of strength of circ. intermediate seam

plate

84.3.

rivets

Percentage of strength of longitudinal joint

plate

84.3.

rivets

104.

combined

89.3.

Working pressure of shell by Rules

155 lbs. sq. in.

Thickness of butt straps

outer

23/32"

inner

27/32"

No. and Description of Furnaces in each Boiler

2 Brighton.

Material

Steel

Tensile strength

26-30 tons sq. in.

Smallest outside diameter

3'-8"

Length of plain part

top

bottom

Thickness of plates

crown

1/2"

bottom

Description of longitudinal joint

Forge Weld.

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

Working pressure of furnace by Rules

163 lbs. sq. in.

End plates in steam space: Material

Steel

Tensile strength

26-30 tons sq. in.

Thickness

15/16"

Pitch of stays

16 x 15"

How are stays secured

Nuts - in & out.

Working pressure by Rules

As approved.

Tube plates: Material

front

Steel

back

Steel

Tensile strength

26-30 tons sq. in.

Thickness

3/4"

Mean pitch of stay tubes in nests

8 5/16"

Pitch across wide water spaces

13 1/2"

Working pressure

front

back

As approved.

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 tons sq. in.

Depth and thickness of girder

at centre

9 1/2" x 1 1/32"

Length as per Rule

32 1/2"

Distance apart

9 3/8"

No. and pitch of stays

in each

Welded.

Working pressure by Rules

As approved.

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons sq. in.

Thickness: Sides

3/4"

Back

3/4"

Top

3/4"

Bottom

3/4"

Pitch of stays to ditto: Sides

8 1/2" x 8 1/2" x 9"

Back

8 1/4" x 9 1/2"

Top

9"

Are stays fitted with nuts or riveted over

At Shell - others Welded.

Working pressure by Rules

As approved.

Front plate at bottom: Material

Steel

Tensile strength

26-30 tons sq. in.

Thickness

7/8"

Lower back plate: Material

Steel

Tensile strength

26-30 tons sq. in.

Thickness

15/16"

Pitch of stays at wide water space

16 1/4" x 9 1/2"

Are stays fitted with nuts or riveted over

Welded.

Working Pressure

As approved.

Main stays: Material

Steel

Tensile strength

28-32 tons sq. in.

Diameter

At body of stay,

or

Over threads

2 3/4"

No. of threads per inch

6

Area supported by each stay

Various

Working pressure by Rules

As approved.

Screw stays: Material

Steel

Tensile strength

26-30 tons sq. in.

Diameter

At turned off part,

or

Over threads

1 1/2"

No. of threads per inch

9

Area supported by each stay

9 1/2" x 8 1/4"

Screwed at Shell only
Welded in Combustion Chambers.

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Working pressure by Rules *As approved* the stays drilled at the outer ends ✓ Margin stays: Diameter { At turned off part, $1\frac{3}{4} \times 2$ ✓
No. of threads per inch *Welded*. ✓ Area supported by each stay $14 \times 9\frac{1}{2}$ Working pressure by Rules *As approved*.
Tubes: Material *H.D.S.* External diameter { Plain $2\frac{1}{2}$ ✓ Thickness { 10 LSG. $\frac{1}{4}$ ✓ No. of threads per inch *9*. ✓
Pitch of tubes $3\frac{3}{4} \times 3\frac{5}{8}$ Working pressure by Rules *As approved*. Manhole compensation: Size of opening in
shell plate $13\frac{3}{4}$ ✓ Section of compensating ring $2'-8 \times 2'-4 \times \frac{7}{8}$ No. of rivets and diameter of rivet holes *Welded to shell*
Outer row rivet pitch at ends ✓ 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 ✓
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 *None* ✓ Manufacturers of { Tubes
Steel forgings
Steel castings
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 forgings and 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,
Manufacturer.

Dates of Survey { During progress of work in shops - - -
while building { During erection on board vessel - - -
March. 11. 14. April 12. 25. May. 2. 3. 4. 5. 9. 12. 19. 27.
June. 3. 6. 7. 8. 10. 13. 27. 28. 29.
July. 1. Are the approved plans of boiler and superheater forwarded herewith *Yes* ✓
(If not state date of approval.) *Approved letter 26.11.48*
Total No. of visits *22*

Is this Boiler a duplicate of a previous case *Yes* ✓ If so, state Vessel's name and Report No. *1379 G Rpt No 14729*
with exception of bottom manhole (in back plate) & position of bottom main stay

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

These boilers have been built under special survey in accordance with the Rules and approved plan. The materials and workmanship are good. The boilers have been dispatched to Glasgow for installation in the vessel.

These boilers have been efficiently installed in the vessel, run under steam, safety valves adjusted to 150 LBS/SQ. IN. and accumulation tests as per Rules carried out satisfactorily.

H. Cairns, Juniper
Glasgow December 1949

Survey Fee ... £ *59* : 2 : When applied for, *28/7/1949*
Travelling Expenses (if any) £ : : When received, *19*

Committee's Minute *GLASGOW - 7 DEC 1949*

Assigned *SEE ACCOMPANYING MACHINERY REPORT.*



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