

Rpt. 5a.

REPORT ON BOILERS.

No. 79440

Date of writing Report

192

When handed in at Local Office

27/7/1925

Received at London Office

28 JUL 1925

No. in Survey held at
Reg. Book.

on the

Janaw. on. T. Inc.
"BRITISH CHEMIST"

Date, First Survey 25 Aug 1924

Last Survey

24 July

1925

(Number of Visits)

Gross
Net

Master

Built at

Janaw.

By whom built

Palmer & Sons

Yard No.

937

When built

1925

Engines made at

Janaw.

By whom made

do

Engine No.

937

When made

1925

Boilers made at

Janaw.

By whom made

do

Boiler No.

937

When made

1925

Nominal Horse Power

Owners British

Port belonging to

MULTITUBULAR BOILERS ^{Donkey} MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Total Heating Surface of Boilers

For 2 boilers 2716 sq ft

Is forced draught fitted

yes

(Better for Record

5

No. and Description of Boilers

Two 4 ft 6 in. 8 ft 6 in. DB

Coal or Oil fired

oil

Tested by hydraulic pressure to

27 ft 6 in.

Date of test 23.1.25

No. of Certificate 9889

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

2 4 ft 6 in. 8 ft 6 in.

Area of each set of valves per boiler

(per Rule

12.346 sq ft

as fitted

14.136 sq ft

Pressure to which they are adjusted

155 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

Smallest distance between shell of boiler and tank top plating

Is oil fuel carried in the double bottom under boilers

yes

Largest internal dia. of boilers

11-6

Length

11-6

Is the bottom of the boiler insulated

yes

Thickness

7/8

Are the shell plates welded or flanged

no

Shell plates: Material

Steel

Tensile strength

28/32 tons

long. seams

TR. DBS.

Diameter of rivet holes in

circ. seams

1 1/8

long. seams

1

Description of riveting: circ. seams

end

inter.

Pitch of rivets

3.25

5

5

Percentage of strength of circ. end seams

plate

64.3

rivets

51.2

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate

80

rivets

83.4

combined

Working pressure of shell by Rules

153.5

Thickness of butt straps

outer

9

inner

7/8

No. and Description of Furnaces in each Boiler

Two 4 ft 6 in. 8 ft 6 in.

Material

Steel

Tensile strength

28 to 32 tons

Smallest outside diameter

5-4 1/2

Length of plain part

top

bottom

Thickness of plates

crown

3/16

bottom

Description of longitudinal joint

Welded

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

Working pressure of furnace by Rules

154.8

End plates in steam space: Material

Steel

Tensile strength

28 to 30 tons

Thickness

15/16

Pitch of stays

15 x 17

How are stays secured

Double nuts & washers

Working pressure by Rules

157 lbs

Tube plates: Material

front

Steel

back

Steel

Tensile strength

28 to 30 tons

Thickness

3/32

3/32

3/32

Mean pitch of stay tubes in nests

10.5

Pitch across wide water spaces

14 1/2

Working pressure

front

back

153 lbs

166.5

Girders to combustion chamber tops: Material

Steel

Tensile strength

28 to 32 tons

Depth and thickness of girder

8 x 14

at centre

8 x 14

Length as per Rule

31.6875

Distance apart

8 1/2

in each

2 @ 10

Working pressure by Rules

162.5 lbs

Combustion chamber plates: Material

Steel

Tensile strength

28 to 30 tons

Thickness: Sides

3/32

Back

3/4

Top

3/32

Bottom

3/32

Pitch of stays to ditto: Sides

8 3/4 x 11

Back

8 x 10

Top

8 1/2 x 10

Are stays fitted with nuts or riveted over

nuts & rivets

Working pressure by Rules

Side

152 lbs

Front plate at bottom: Material

Steel

Tensile strength

28 to 30 tons

Thickness

25/32

Lower back plate: Material

Steel

Tensile strength

28 to 30 tons

Thickness

3/32

Pitch of stays at wide water space

14 1/2 x 10

Are stays fitted with nuts or riveted over

nuts

Working Pressure

191 lbs

Main stays: Material

Steel

Tensile strength

28 to 32 tons

Diameter

At body of stay,

2 3/8

No. of threads per inch

6

Area supported by each stay

255 sq in

Working pressure by Rules

154 lbs

Screw stays: Material

Iron tested

Tensile strength

80 sq in

Diameter

At turned off part,

1 1/2

No. of threads per inch

9

Area supported by each stay

80 sq in

Working pressure by Rules

154 lbs

No. of threads per inch

9

Area supported by each stay

80 sq in

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Working pressure by Rules 157.8 Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part 1 1/4" or Over threads 1 1/4" }
 No. of threads per inch 9 Area supported by each stay 111.25 Working pressure by Rules 163.25
 Tubes: Material En. External diameter { Plain 3 Stay 3 } Thickness 3/8" No. of threads per inch 9
 Pitch of tubes 4 1/4" x 4 1/8" Working pressure by Rules Exort 217.4 Manhole compensation: Size of opening in shell plate 20" x 16" Section of compensating ring 7/8" flanged No. of rivets and diameter of rivet holes 40 x 1 1/8"
 Outer row rivet pitch at ends 5 3/8" Depth of flange if manhole flanged 3 1/2" 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 - Manufacturers of { Tubes - 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 -, 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 23 inclusive for boilers been complied with Yes

The foregoing is a correct description,
Robertson Shipbuilding & Iron Co. Manufacturer.

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

See main Report

Are the approved plans of boiler and superheater forwarded therewith (If not state date of approval) Yes
 Total No. of visits 1

GENERAL REMARKS

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

These boilers have been built under special survey & the materials & workmanship are good on completion they were tested by hydraulic pressure to 275 lbs. & found sound & tight. The boilers were afterwards satisfactorily fitted in the vessel. The boilers are fitted to use the exhaust gases for raising steam and are also fitted with oil burners and are eligible to have notation. Fitted for oil fuel F.P. class 150

Survey Fee ... £ 18-18-0
 Travelling Expenses (if any) £ : :

When applied for, 27 JUL 1925
 When received, 30 JUL 1925

Harbottle
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 31 JUL 1925

Assigned



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