

REPORT ON BOILERS.

NEW CENTRE

Received at London Office

No. 104536

16 JUN 1947

41

of writing Report

19

When handed in at Local Office

21/5/47

Port of

NEWCASTLE-ON-TYNE

in Survey held at

Wallsend

Date, First Survey

21st AUGUST, 1946

Last Survey

20th JAN

19 47

on the

S/s HOPESTAR.

(Number of Visits

23

Tons

Gross

5267

Net

3192

or

Built at

By whom built

Yard No.

When built

nes made at

By whom made

Engine No.

When made

CENTRE BOILER

ers made at

Wallsend

By whom made

Wallsend Slipway & Eng'g Co. Ltd

Boiler No.

415B

When made

1947

inal Horse Power

$$\frac{2723}{15} = 182$$

$$\frac{1998}{15} = 133$$

Owners

Port belonging to

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

Manufacturers of Steel

Colvilles Ltd

al Heating Surface of Boilers

1998 sq ft.

Superheat Surface 725 sq ft.

2723

Is forced draught fitted

Yes

(Letter for Record

S

and Description of Boilers

One New Single Ended.

Coal or Oil fired

Coal

Working Pressure

285 lb/sq in.

ted by hydraulic pressure to

478 lb

Date of test

6-11-46

No. of Certificate

N1228.

Can each boiler be worked separately

Yes

ea of Firegrate in each Boiler

52 sq ft.

No. and Description of safety valves to each boiler

2 of 1 1/2" Cockburn's Improved High Lift.

ea of each set of valves per boiler

per Rule

4.86 sq in 4.16 sq in

as fitted

4.81 sq in

Pressure to which they are adjusted

294 lb

Are they fitted with easing gear

Yes

case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

No donkey boiler

allest distance between boilers or uptakes and bunkers or woodwork

21"

Is oil fuel carried in the double bottom under boilers

No

allest distance between shell of boiler and tank top plating

2'-0"

Is the bottom of the boiler insulated

Yes

rgeest internal dia. of boilers

14'-2 1/2"

Length

12'-3"

Shell plates: Material

Stl.

Tensile strength

31 to 35 tons

ickness

1 3/32"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end D.R.

inter. NIL

g. seams J.R. Dble butt straps

Diameter of rivet holes in

circ. seams

1 3/4"

long. seams

1 3/4"

Pitch of rivets

5-01

Percentage of strength of circ. end seams

plate

65%

rivets

43.1%

Percentage of strength of circ. intermediate seam

plate

NIL.

rivets

Percentage of strength of longitudinal joint

plate

84.78

rivets

87.80

combined

87.00

Working pressure of shell by Rules

286 lb/sq in.

ickness of butt straps

outer

1 5/16"

inner

1 7/16"

No. and Description of Furnaces in each Boiler

3 C.f. (Deighton)

aterial

Stl.

Tensile strength

27 to 30 tons

Smallest outside diameter

3'-7 1/2"

Length of plain part

top

1 1/2"

bottom

1 1/2"

Thickness of plates

crown

1 1/2"

bottom

1 1/2"

Description of longitudinal joint

Fire weld.

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

Working pressure of furnace by Rules

285 lb.

nd plates in steam space: Material

Stl.

Tensile strength

26 to 30 tons

Thickness

1 5/32"

Pitch of stays

19 1/4" x 18"

ow are stays secured

Nuttled inside & outside

Working pressure by Rules

293 lb

abe plates: Material

front

Steel

back

Steel

Tensile strength

26 to 30 tons

Thickness

front 1 1/8"

back 1"

ean pitch of stay tubes in nests

8 1/4" x 8 3/4"

Pitch across wide water spaces

14"

Working pressure

front 299 lb.

back 430 lb.

irders to combustion chamber tops: Material

Stl.

Tensile strength

29 to 33 tons

Depth and thickness of girder

centre

12" x 3/4" dble

Length as per Rule

38"

Distance apart

8 1/4"

No. and pitch of stays

each

3 @ 9"

Working pressure by Rules

294 lb

Combustion chamber plates: Material

Stl.

Tensile strength

26 to 30 tons

Thickness: Sides

2 5/32"

Back

1 3/16"

Top

2 5/32"

Bottom

1 1/8"

Pitch of stays to ditto: Sides

8 1/4" x 9"

Back

7 1/4" x 9" max

Top

8 1/4" x 9"

Are stays fitted with nuts or riveted over

1 1/8" dble WITH NUTS.

1 1/8" dble RIVETED OVER

Working pressure by Rules

289 lb min.

Front plate at bottom: Material

Stl.

Tensile strength

26 to 30 tons

Thickness

1 1/8"

Lower back plate: Material

Stl.

Tensile strength

26-30 tons

Thickness

1 1/32"

Pitch of stays at wide water space

14 1/4" x 9"

Are stays fitted with nuts or riveted over

With nuts.

Working Pressure

310 lb.

Main stays: Material

Stl.

Tensile strength

28 to 32 tons

iameter

At body of stay,

3 3/4"

Over threads

3 3/4"

No. of threads per inch

6.

Area supported by each stay

19 1/4" x 18"

Working pressure by Rules

318 lb

Screw stays: Material

Stl.

Tensile strength

26 to 30 tons

iameter

At turned off part,

1 7/8" x 1 7/8"

Over threads

1 7/8" x 1 7/8"

No. of threads per inch

9.

Area supported by each stay

1 7/8" dble - 8 1/2" x 9"

1 1/8" dble - 7 1/2" x 7 1/2"

CONT'D OVER.

W1013-0182

Working pressure by Rules $\frac{1}{8}$ " = 288th $\frac{1}{8}$ " = 290th Are the stays drilled at the outer ends No. Margin stays: Diameter { At turned off part, $\frac{1}{8}$ " or Over threads $\frac{1}{8}$ "

No. of threads per inch 9. Area supported by each stay $10\frac{3}{4}" \times 9"$ Working pressure by Rules 293th

Tubes: Material S.D. Steel External diameter { Plain } $3\frac{1}{4}"$ Thickness { $\frac{7}{16}"$ } No. of threads per inch 9.

Pitch of tubes $4\frac{1}{2}"$ Vert \times $4\frac{3}{8}"$ Horiz Working pressure by Rules 323th min. Manhole compensation: Size of opening in shell plate Whole in B. End. Section of compensating ring ✓ No. of rivets and diameter of rivet holes ✓

Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged ✓ Steam Dome: Nil

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 N.E. Mar. Smoke tube Manufacturers of Tubes Talbot Steel Steel forgings Appleby & Frodingham Steel castings Hopkinson's, Raddusfield

Number of elements 42. Material of tubes S.D. Steel Internal diameter and thickness of tubes $15\frac{1}{2}"$ \times $2\frac{1}{2}"$ min

Material of headers Woot Steel Tensile strength 26 & 30 tons Thickness $1\frac{1}{8}"$ 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 1.77 \square (12" dia Imp H.L.) Are the safety valves fitted with easing gear Yes Working pressure as per Rules 285th Pressure to which the safety valves are adjusted 295th Hydraulic test pressure: tubes 1500th forgings and castings 855th + 660th and after assembly in place 500th. Are drain cocks or valves fitted to free the superheater from water where necessary Yes

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes

The foregoing is a correct description,
FOR THE WALLSEND SLIPWAY & ENGINEERING CO. LIMITED.
J. W. Pherson. Manufacturer

Dates of Survey { During progress of work in shops - - } { 1946 / AUG. 21, SEPT. 3, 4, 13, 18, 20, 25, OCT. 10, 17, 23, NOV. 18, 21, 22, 25, 26, 27, } Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Yes, app'd 24/3/47
{ During erection on board vessel - - } { DEC 4, 9, 11, 17, 18, 23, 1947 / JAN. 20 } Total No. of visits 23. Sup. in N.E. Mar Standard

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) and fitted on board.
This New Centre Boiler has been constructed under special supervision in accordance with the approved plan and the Society's Rules, and the materials & workmanship are good.
See also Machy Rpt 9.

Survey Fee ... £ 27-6-0 } When applied for, 19
Travelling Expenses (if any) £ : : } When received, 19

A. Watt. J. H. Walker.

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute

FRI 1 AUG 1947

Assigned

See Rpt. 9



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