

REPORT ON BOILERS.

No. 77934

Received at London Office THUR. JUN. 5 1924

Date of writing Report

192

When handed in at Local Office

4 JUN 1924

Port of

NEWCASTLE-ON-TYNE

No. in Reg. Book.

Survey held at

Newcastle-on-Tyne

Date, First Survey

Jan 8th

Last Survey

June 2

1924

41176 on the

Steamer

"TOGSTON"

(Number of Visits 29)

Tons

Gross 1560

Net 910

Master

Built at

Haverston Hall on Tyne

By whom built

Hurners S.B. Co

Yard No.

61

When built

1924

Engines made at

Newcastle-on-Tyne

By whom made

North Eastern Marine & Cold

Engine No.

2562

When made

1924

Boilers made at

do

By whom made

do

Boiler No.

2562

When made

1924

Nominal Horse Power

166

Owners

Broomhill Collieries Ltd.

Port belonging to

Newcastle

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Lipson & Sons Ltd.

(Letter for Record S.)

Total Heating Surface of Boilers

2916 sq ft

Is forced draught fitted

No

Coal or Oil fired

Coal

No. and Description of Boilers

2 Single Ended Multitubular boilers 2 SB.

Working Pressure

180 lbs

Tested by hydraulic pressure to

320

Date of test

3.4.24

No. of Certificate

9815

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

40 sq ft

No. and Description of safety valves to each boiler

Two Spring-loaded (Cochran's high lift)

Area of each set of valves per boiler

per Rule 9.2×2.3 sq inas fitted 6.2832 sq in

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

None

Smallest distance between boilers or uptakes and bunkers or woodwork

9 in

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

22 in

Is the bottom of the boiler insulated

No

Largest internal dia. of boilers

12-3 1/2 in

Length

10-6 in

Shell plates: Material

Steel

Tensile strength

28-32 tons

Thickness

1 1/2 in

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end

double

long. seams

Double melted double

Diameter of rivet holes in

circ. seams

1 3/32 in

long. seams

1 3/32 in

Pitch of rivets

3 1/2 in

7 1/16 in

Percentage of strength of circ. end seams

plate 66.5

rivets 43.0

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 86.0

rivets 90.0

combined 90.0

Working pressure of shell by Rules

184 lbs

Thickness of butt straps

outer 1 1/2 in

inner 1 1/2 in

No. and Description of Furnaces in each Boiler

2 Singletons

Material

Steel

Tensile strength

26-30 tons

Smallest outside diameter

44 1/16 in

Length of plain part

top

bottom

Thickness of plates

crown

bottom

2 1/16 in

Description of longitudinal joint

Melted

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

Working pressure of furnace by Rules

184 lbs

End plates in steam space: Material

Steel

Tensile strength

26-30 tons

Thickness

1 1/8 in

Pitch of stays

21 x 17 in

How are stays secured

Double nuts & washers - 3D.

Working pressure by Rules

183 lbs

Tube plates: Material

front Steel

back Steel

Tensile strength

26-30 tons

Thickness

1 1/2 in

3/4 in

Mean pitch of stay tubes in nests

9 in

Pitch across wide water spaces

14 1/2 x 8 1/4 in

Working pressure

front 235 lbs

back 210 in

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 tons

Depth and thickness of girder

at centre

8 1/4 x 1 1/2 in

Length as per Rule

29 in

Distance apart

10 3/4 in

No. and pitch of stays

in each

2-9 in

Working pressure by Rules

182 lbs

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons

Thickness: Sides

23/32 in

Back

23/32 in

Top

23/32 in

Bottom

4 in

Pitch of stays to ditto: Sides

10 1/2 x 9 in

Back

10 1/2 x 8 1/4 in

Top

10 1/2 x 9 in

Are stays fitted with nuts or riveted over

Nuts

Working pressure by Rules

184 lbs

Front plate at bottom: Material

Steel

Tensile strength

26-30 tons

Thickness

1 1/2 in

Lower back plate: Material

Steel

Tensile strength

26-30 tons

Thickness

29 in

Pitch of stays at wide water space

14 1/2 x 8 1/4 in

Are stays fitted with nuts or riveted over

Nuts

Working Pressure

235 lbs

Main stays: Material

Steel

Tensile strength

28-32 tons

Diameter

At body of stay, 3 in

Over threads 3 1/2 in

No. of threads per inch

6

Area supported by each stay

3540 sq in

Working pressure by Rules

183 lbs

Screw stays: Material

Steel

Tensile strength

26-30 tons

Diameter

At turned off part, 1 3/4 in

Over threads 1 3/4 in

No. of threads per inch

9

Area supported by each stay

96750 sq in

W1150-0268

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Working pressure by Rules ⁴⁰ 184 Are the stays drilled at the outer ends ⁴⁰ ✓ Margin stays: Diameter { At turned off part, ⁴ 1 3/8" or Over threads ^{1 3/8} ✓
No. of threads per inch ⁹ 9 Area supported by each stay ^{109.5} 109.5" Working pressure by Rules ¹⁹⁸ 198
Tubes: Material ^{Iron} Iron External diameter { Plain ^{3 1/2} 3 1/2" Stay ^{3 1/2} 3 1/2" Thickness { ^{8 SWG} 8 SWG No. of threads per inch ⁹ 9
Pitch of tubes ^{4 1/2 x 4 1/2} 4 1/2 x 4 1/2 Working pressure by Rules ^{270 + 208} 270 + 208 ✓ Manhole compensation: Size of opening in
shell plate ^{16" x 12"} 16" x 12" Section of compensating ring ^{Flanged} Flanged No. of rivets and diameter of rivet holes
Outer row rivet pitch at ends ^{4"} 4" Depth of flange if manhole flanged ^{4"} 4" Steam Dome: Material ^{Iron} Iron
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 ^{None} None 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 [—]

The foregoing is a correct description,
THE NORTH EASTERN MARINE ENGINEERING CO., LTD.

Manufacturer.

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

Are the approved plans of boiler and superheater forwarded herewith
(If not state date of approval.)

Total No. of visits

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers were constructed under special
survey. The materials and workmanship are sound and good. They have been subjected to a hydraulic
pressure test in accordance with the rules and the safety valves were adjusted under steam.
The boilers were installed in the steamer "Soplin" and efficiently fastened. In my opinion
the vessel is eligible for classification - Rules pressure 180 lbs

Survey Fee £

Travelling Expenses (if any) £

When applied for, 192

When received, 192

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute WED, 11 JUN 1924

Assigned



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