

REPORT ON BOILERS.

No. 95512

Received at London Office

OCT 12 1937

Date of writing Report

19

When handed in at Local Office

11/10/37

Port of

NEWCASTLE-ON-TYNE

No. in Survey held at
eg. Book.

Wallsend

Date, First Survey

9 Feb

Last Survey

4 Oct

1937

(Number of Visits)

on the

S.S. BECKENHAM

Tons

Gross

Net

Master

Built at

Bundee

By whom built

Caledon S.B. & Eng Co. Ltd

Yard No.

367

When built

1937

Engines made at

Wallsend

By whom made

North Eastern Marine Eng Co. Ltd.

Engine No.

2876

When made

1937

Boilers made at

Wallsend

By whom made

North Eastern Marine Eng Co. Ltd

Boiler No.

2876

When made

1937

Nominal Horse Power

404

Owners

Britain S.S. Co.

Port belonging to

London

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

Manufacturers of Steel

Steel Co of Scotland

(Letter for Record

3

)

Total Heating Surface of Boilers

1680 sq ft

Is forced draught fitted

No

Coal or Oil fired

Coal

No. and Description of Boilers

One single ended multitubular

Working Pressure

220 lbs

Tested by hydraulic pressure to

380 lbs

Date of test

27-7-37

No. of Certificate

728

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

38.5 sq ft

No. and Description of safety valves to each boiler

Two spring loaded

Area of each set of valves per boiler

{ per Rule
as fitted8.9 sq in
9.82 sq in

Pressure to which they are adjusted

225 lbs

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

10'-3"

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

7'-4"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

13'-0 $\frac{15}{32}$ "

Length

10'-6"

Shell plates: Material

Steel

Tensile strength

29-33 tons

Thickness

1 $\frac{17}{16}$ "

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

{ end
inter.

DR Lap

Long. seams

J.R. Old Straps

Diameter of rivet holes in

{ circ. seams
long. seams1 $\frac{5}{16}$ "
1 $\frac{5}{16}$ "

Pitch of rivets

{ 3 $\frac{3}{4}$ "
9 $\frac{1}{8}$ "

Percentage of strength of circ. end seams

{ plate
rivets65
45.2

Percentage of strength of circ. intermediate seam

{ plate
rivets—
—

Percentage of strength of longitudinal joint

{ plate
rivets
combined85.6
87.1
88.6

Working pressure of shell by Rules

222 lbs

Thickness of butt straps

{ outer
inner3 $\frac{1}{8}$ "
1 $\frac{3}{32}$ "

No. and Description of Furnaces in each Boiler

Two daylight

Material

Steel

Tensile strength

26-30 tons

Smallest outside diameter

44 $\frac{5}{8}$ "

Length of plain part

{ top
bottom—
—

Thickness of plates

{ crown
bottom1 $\frac{11}{16}$ "
—

Description of longitudinal joint

Weld

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

None

Working pressure of furnace by Rules

225 lbs

End plates in steam space: Material

Steel

Tensile strength

26-30 tons

Thickness

1 $\frac{21}{16}$ "

Pitch of stays

22" x 16"

How are stays secured

Double nuts

Working pressure by Rules

223 lbs

Tube plates: Material

{ front
backSteel
Steel

Tensile strength

{ 26
30 tons

Thickness

{ 3 $\frac{1}{32}$ "
13 $\frac{1}{16}$ "

Mean pitch of stay tubes in nests

10'-2"

Pitch across wide water spaces

14 $\frac{1}{2}$ "

Working pressure

{ front
back225 lbs
225 lbs

Girders to combustion chamber tops: Material

Steel

Tensile strength

29-33 tons

Depth and thickness of girder

at centre

9 $\frac{1}{2}$ " x 2 @ $\frac{25}{32}$ "

Length as per Rule

2'-8"

Distance apart

10 $\frac{3}{16}$ "

No. and pitch of stays

in each

2 @ 9 $\frac{1}{2}$ "

Working pressure by Rules

236 lbs

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons

Thickness: Sides

25 $\frac{3}{32}$ "

Back

25 $\frac{3}{32}$ "

Top

25 $\frac{3}{32}$ "

Bottom

25 $\frac{3}{32}$ "

Pitch of stays to ditto: Sides

10" x 9 $\frac{1}{2}$ "

Back

10 $\frac{3}{16}$ " x 9 $\frac{1}{2}$ "

Top

10 $\frac{3}{16}$ " x 9 $\frac{1}{2}$ "

Are stays fitted with nuts or riveted over

Nuts

Working pressure by Rules

224 lbs

Front plate at bottom: Material

Steel

Tensile strength

26-30 tons

Thickness

3 $\frac{1}{32}$ "

Lower back plate: Material

Steel

Tensile strength

26-30 tons

Thickness

15 $\frac{1}{16}$ "

Pitch of stays at wide water space

15" x 9 $\frac{1}{2}$ "

Are stays fitted with nuts or riveted over

Nuts

Working Pressure

229 lbs

Main stays: Material

Steel

Tensile strength

28-32 tons

Diameter

{ At body of stay,
or
Over threads3"
—

No. of threads per inch

6

Area supported by each stay

352 lbs

Working pressure by Rules

223 lbs

Screw stays: Material

Steel

Tensile strength

26-30 tons

Diameter

{ At turned off part,
or
Over threads—
2"

No. of threads per inch

9

Area supported by each stay

96.78 sq in

Working pressure by Rules 256 lbs Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 2 1/8" or Over threads 2 1/8"
No. of threads per inch 9 Area supported by each stay 111.6 sq" Working pressure by Rules 255 lbs
Tubes: Material Steel S.S. External diameter { Plain 3 1/4" Stay 3 1/4" Thickness { 3/8" + 5/16" No. of threads per inch 9
Pitch of tubes 4 1/2" x 4 3/8" Working pressure by Rules 230 lbs P. 257 Stay Manhole compensation: Size of opening in
END 16" x 12" Section of compensating ring ✓ No. of rivets and diameter of rivet holes ✓
Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged 4" 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 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 22 inclusive for boilers been complied with Yes

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

Dates of Survey { During progress of work in shops - - See Machinery Report
while building { During erection on board vessel - - -
Are the approved plans of boiler and superheater forwarded herewith Yes
(If not state date of approval.)
Total No. of visits ✓

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. "Blackheath" Rpt No 93815.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under Special Survey, in accordance with the Rules and approved plan. The materials and workmanship are good. It has been fitted on board in an efficient manner, tried under working conditions and found satisfactory.

Survey Fee ... Charged on When applied for, 19
Travelling Expenses (if any) See Machinery Report When received, 19

J. Seller
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE 2 NOV 1937

Assigned See Run 9007