

REPORT ON BOILERS.

No. 104107

Received at London Office

Date of writing Report

29. 11. 10 46

When handed in at Local Office

30. 11. 10 46

Port of

NEWCASTLE-ON-TYNE

No. in Survey held at

Wallsend

Date, First Survey

(1946) Sept. 9th

Last Survey

Nov. 21st 1946

Reg. Book.

on the

M/V "BRITISH ENSIGN"

(Number of Visits 10)

Gross 8738

Tons Net 4984

Master

Built at

Haverton Hall under

By whom built

Furness S.B.C. Ltd

Yard No.

393

When built

1947

Engines made at

Sunderland

By whom made

Wm. Doxford & Sons Ltd

Engine No.

258

When made

1947

Donkey Boilers made at

Wallsend

By whom made

N.E. Mar. Eng. Co (1938) Ltd

Boilers No.

R-W 2768

When made

1946

Nominal Horse Power

267

Owners

British Tankers Co

Port belonging to

London.

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

Manufacturers of Steel

Colvilles Ltd.

(Letter for Record S. ✓)

Total Heating Surface of Boilers

4004 sq ft

Is forced draught fitted

Yes ✓

Coal or Oil fired

oil fired ✓

No. and Description of Boilers

2 Single Ended

Working Pressure

150 lbs/sq in ✓

Tested by hydraulic pressure to

275 lb

Date of test

21-11-46

No. of Certificate

No 1227.

Can each boiler be worked separately

Yes ✓

Area of Firegrate in each Boiler

oil fired

No. and Description of safety valves to each boiler

7.66 sq in

as fitted

9.8

Pressure to which they are adjusted

155 lb/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

✓ No main Boiler ✓

Smallest distance between boilers or uptakes and bunkers or woodwork

6'-0"

Is oil fuel carried in the double bottom under boilers

✓

Smallest distance between shell of boiler and tank top plating

Fitted on flat above thrust.

Is the bottom of the boiler insulated

✓

Largest internal dia. of boilers

12'-10 3/16"

Length

11'-6"

Shell plates: Material

Stl ✓

Tensile strength

29 & 33 tons ✓

Thickness

29/32"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end D.R.

long. seams

T.R. - dble butt shape

Diameter of rivet holes in

circ. seams 1 5/8"

long. seams 1 1/8"

Pitch of rivets

3 1/4"

Percentage of strength of circ. end seams

plate 65.5

rivets 53.4

Percentage of strength of circ. intermediate seam

plate Nil.

rivets

Percentage of strength of longitudinal joint

plate 84.8

rivets 103.8

combined 90.5

Working pressure of shell by Rules

156.7 lb.

Thickness of butt straps

outer 3/4"

inner 1/8"

No. and Description of Furnaces in each Boiler

2 C.f. (Doughton type)

Material

Steel

Tensile strength

26-30 tons ✓

Smallest outside diameter

3'-8 3/16" ✓

Length of plain part

top ✓

bottom ✓

Thickness of plates

crown 15/32"

bottom

Description of longitudinal joint

fire weld ✓

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

✓

Working pressure of furnace by Rules

150.3 lb

End plates in steam space: Material

Stl ✓

Tensile strength

26 to 30 tons ✓

Thickness

1 3/8"

Pitch of stays

2'6" x 1'4" ✓

How are stays secured

Nuttled inside + outside

Working pressure by Rules

153.6 lb

Tube plates: Material

front Stl

back Stl

Tensile strength

26 to 30 tons

Thickness

front 27/32"

back 3/4"

Mean pitch of stay tubes in nests

9 3/8"

Pitch across wide water spaces

14 1/2"

Working pressure

front 182 lb

back 227 lb

Girders to combustion chamber tops: Material

Stl

Tensile strength

29 & 33 tons

Depth and thickness of girder

at centre

9" x 3/4" dble

Length as per Rule

2'-10"

Distance apart

10 3/4"

No. and pitch of stays

in each

2 at 10 3/4"

Working pressure by Rules

175.8 lb

Combustion chamber plates: Material

Stl

Tensile strength

26 to 30 tons

Thickness: Sides

3/4"

Back

3/4"

Top

3/4"

Bottom

3/4"

Pitch of stays to ditto:

Sides 10 3/4" x 7 1/2"

Back 10 3/4" x 7 1/2"

Top 10 3/4" x 10 3/4"

Are stays fitted with nuts or riveted over

marginal + top plate

- nutted.

Working pressure by Rules

154 lb min

Front plate at bottom: Material

Stl

Tensile strength

26 to 30 tons

Thickness

27/32"

Lower back plate: Material

Stl

Tensile strength

26 to 30 tons

Thickness

1 3/16"

Pitch of stays at wide water space

14 1/2"

Are stays fitted with nuts or riveted over

marginal are nutted.

Remainder - riveted over.

Working Pressure

201 lb.

Main stays: Material

Stl

Tensile strength

28-32 tons

Diameter

At body of stay, 3"

Over threads, 3 1/4"

No. of threads per inch

6.

Area supported by each stay

480 sq in

Working pressure by Rules

163.5 lb

Screw stays: Material

Stl.

Tensile strength

26 to 30 tons

Diameter

At turned-off part, 1 1/2"

Over threads, 1 1/2"

No. of threads per inch

9.

Area supported by each stay

80.6 sq in

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Working pressure by Rules 155.7th Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 1 5/8" & 1 3/4"
Over threads
No. of threads per inch 9. Area supported by each stay 94.7 sq inches Working pressure by Rules 160.2th
Tubes: Material S.D. 51L External diameter { Plain 2 1/2" Thickness { 10 W.G. No. of threads per inch 9.
Stay
Pitch of tubes 3 3/4" x 3 3/4" Working pressure by Rules 217th Manhole compensation: Size of opening in
shell plate ☒ Section of compensating ring No. of rivets and diameter of rivet holes
Outer row rivet pitch at ends Depth of flange if manhole flanged 3 HEIGHT 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 NIL 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 NORTH EASTERN MARINE ENGINEERING CO. (1892) LTD.
The foregoing is a correct description,

Manufacturer.

Dates of Survey { During progress of (1946) Sept. 9, 13, 18, 19 Oct. 11, 29, Nov. 4, 6, 21 Are the approved plans of boiler and superheater forwarded herewith 28-12-45
work in shops - - -
while building { During erection on
board vessel - - -
Total No. of visits 10

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. Furness Yard No 390 N.W.C. Reg
HEM. Bln R-W 2764 NO 103881.

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

These Donkey Boilers have been constructed under special survey in accordance with the approved plan & the Society's Rules, and the materials & workmanship are good.

The Boilers have been sent to Furness S.B. Coy's Yard to be fitted on board

These boilers have now been fitted securely on board & examined under working conditions & found satisfactory.

On completion the SV's were adjusted under steam to 155 lbs.

Thickness of adjusting washers Port Bln: P: 13/32" S: 25/64" Star Bln P: 27/64" S: 1/16"

Survey Fee ... £ 25: 17: - When applied for, 19
Travelling Expenses (if any) £ : : When received, 19

Robert & Norman Stuart
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 13 JUN 1947

Assigned See F.E. mch. rpt.



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Foundation