

## REPORT ON BOILERS.

Std. No. 33637

Que No. 100876

27 NOV 1942

Received at London Office

Date of writing Report

19

When handed in at Local Office

24/11/1942

Port of

NEWCASTLE-ON-TYNE

No. in  
Reg. Book.

Survey held at

Walkend on Tyne

Date, First Survey 17 April 1941

Last Survey 19 Nov 1942

1942

on the

"EMPIRE BARDOLPH"

(Number of Visits)

Gross 7017

Tons

Net 4758

Built at Sunderland

By whom built

Short Bros Ltd.

Yard No. 474

When built 1942

Engines made at

Newcastle

By whom made

N.E. Marine Eng Co (1938) Ltd

Engine No. 3031

When made 1942

Main Boilers

Walkend Slipway &amp; Eng. Co Ltd

Boiler No. 396 B

When made 1942

Boilers made at

By whom made

N.E. Marine Eng Co (1938) Ltd

Boiler No. 3031

When made 1942

Nominal Horse Power

Owners

Port belonging to

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Colvilles Ltd &amp; Steel Co of Scotland Ltd.

(Letter for Record)

S

Total Heating Surface of Boilers

2416 sq. ft.

Is forced draught fitted

yes

Coal or Oil fired

coal

No. and Description of Boilers

1 Aux S.B.

Working Pressure

220

Tested by hydraulic pressure to

380

Date of test

31.8.42

No. of Certificate

1013

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

55

No. and Description of safety valves to each boiler

1 Double improved high lift.

Area of each set of valves per boiler

(per Rule)

6.42

Pressure to which they are adjusted

as fitted

7.94

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

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

2'-0"

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

15'-0 1/2"

Length

11'-8 1/2"

Shell plates: Material

S.

Tensile strength

29-33

Thickness

1 1/32"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

DR

long. seams

T.R. D.B.S.

Diameter of rivet holes in

(circ. seams)

1 1/2"

Pitch of rivets

48"

10 1/2"

Percentage of strength of circ. end seams

plate

rivets

63.6

Percentage of strength of circ. intermediate seam

plate

rivets

46.2

Percentage of strength of longitudinal joint

plate

rivets

85.5

Percentage of strength of longitudinal joint

combined

rivets

86.2

Thickness of butt straps

(outer)

1 1/2"

No. and Description of Furnaces in each Boiler

3 cf.

Material

S.

Tensile strength

26-30

Smallest outside diameter

3'-9 1/2"

Length of plain part

(top)

bottom

Thickness of plates

(crown)

1 1/16"

Description of longitudinal joint

weld

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

End plates in steam space: Material

S.

Tensile strength

26-30

Thickness

1 1/32"

Pitch of stays

19 1/4" x 19 1/8"

How are stays secured

Double nuts

Tube plates: Material

(front)

back

S.

Tensile strength

26-30

Thickness

1 5/16"

25/32"

Mean pitch of stay tubes in nests

9 7/16"

Pitch across wide water spaces

14" x 8 1/4"

Girders to combustion chamber tops: Material

S.

Tensile strength

29-32

Depth and thickness of girder

at centre

10 1/2" x 1 1/2" D.M.C.

Length as per Rule

33 1/32"

Distance apart

9 1/2"

No. and pitch of stays

in each

32 8"

Combustion chamber plates: Material

S.

Tensile strength

26-30

Thickness: Sides

1 1/16"

Back

1 1/16"

Top

1 1/16"

Bottom

7/8"

Pitch of stays to ditto: Sides

9 1/4" x 8"

Back

9 1/4" x 8"

Top

9 1/4" x 8"

Are stays fitted with nuts or riveted over

nuts

Front plate at bottom: Material

S.

Tensile strength

26-30

Thickness

1 5/16"

Lower back plate: Material

S.

Tensile strength

26-30

Thickness

27/32"

Pitch of stays at wide water space

14" x 8"

Are stays fitted with nuts or riveted over

nuts

Main stays: Material

S.

Tensile strength

28-32

Diameter

(At body of stay, or over threads)

3 1/4"

No. of threads per inch

6

Screw stays: Material

S.

Tensile strength

26-30

Diameter

(At turned off part, or over threads)

1 3/4"

No. of threads per inch

9



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Are the stays drilled at the outer ends no Margin stays: Diameter <sup>(At turned off part, or Over threads)</sup> 1 7/8"  
No. of threads per inch 9  
Tubes: Material S.A. Steel External diameter <sup>Plain</sup> 3" <sup>Stay</sup> 3" Thickness <sup>8 W.G.</sup> 3/8" x 5/16" No. of threads per inch 9  
Pitch of tubes 4 1/4" x 4 1/8" Manhole compensation: Size of opening in shell plate none Section of compensating ring No. of rivets and diameter of rivet holes  
Outer row rivet pitch at ends Depth of flange if manhole flanged none Steam Dome: Material none  
Tensile strength Thickness of shell Description of longitudinal joint  
Diameter of rivet holes 5/16" Pitch of rivets 1 1/2" Percentage of strength of joint <sup>Plate</sup> 100% <sup>Rivets</sup>  
Internal diameter 11 1/2" Thickness of crown 1/4" No. and diameter of stays 11 Inner radius of crown 11"  
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 <sup>Tubes</sup> none <sup>Steel forgings</sup> none <sup>Steel castings</sup> none  
Number of elements Material of tubes none 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  
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. (1938) LTD.

The foregoing is a correct description,

Harry Hinks

Manufacturer.

DIRECTOR.

Similar Boilers

11.10.41.

Dates of Survey <sup>During progress of work in shops - -</sup> See Main Boiler Report <sup>During erection on board vessel - - -</sup>

Are the approved plans of boiler and superheater forwarded herewith (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. "Empire Standard"

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This auxiliary boiler has been made under Special Survey in accordance with the Approved Plan & the Requirements of the Rules & Specification. The Materials & Workmanship are good & the boiler proved sound & tight under hydraulic test. Boiler constructed under C 3036 (3 Auxiliary Boilers) The boiler is being shipped to Sunderland to be fitted in Messrs Short Bros. No 474 by Messrs G. Clark Ltd.

This boiler has been securely fixed on board the vessel & safety valves adjusted to working pressure in accordance with rule requirements

H. Hinks

Survey Fee +25% £ 20 : 2 : 6 When applied for, 19  
Travelling Expenses (if any) £ : : When received, 19

126 NOV 1942

R. C. Moffatt  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

WED. 31 MAR 1943

Assigned

See Std. No. 33637



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