

REPORT ON BOILERS.

No. 100452

12 JUN 1942

Received at London Office

Date of writing Report

19

When handed in at Local Office

10th June 1942

Port of

NEWCASTLE-ON-TYNE

No. in
Reg. Book.

Survey held at Wallsend on Tyne

Date, First Survey

24.9.41

Last Survey

28.5.1942

36449 on the

S.S. "EMPIRE. COLERIDGE"

(Number of Visits 64)

Gross 9813
Tons Net 5731

Master

Built at

Sunderland

By whom built

Sir J. Laing & Sons Ltd

Card No. 741

When built

1942.

Engines made at

Wallsend

By whom made

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

Engine No. 3021

When made

1942

Boilers made at

"

By whom made

-

Boiler No. 3021

When made

1942.

Nominal Horse Power

674

Owners

Ministry of War Transport

Port belonging to

Sunderland

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Colvilles Ltd.

(Letter for Record S.)

Total Heating Surface of Boilers

10020.

Is forced draught fitted

yes

Coal or Oil fired

oil

No. and Description of Boilers

3 SB

273 20.2.42

Working Pressure

220

Tested by hydraulic pressure to

380.

Date of test

P 27.2.42

No. of Certificate

949

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

8.88

No. and Description of safety valves to each boiler

1 Double improved high lift

Area of each set of valves per boiler

9.8

as fitted

Pressure to which they are adjusted

225

Are they fitted with easing gear

yes

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

Smallest distance between boilers or uptakes and bunkers or woodwork

Is oil fuel carried in the double bottom under boilers

yes

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

16'-2 3/32"

Length

12'-6"

Shell plates: Material

S.

Tensile strength

30-34

Thickness

1 33/64"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

inter.

D.R.

long. seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams

1 9/16"

Pitch of rivets

4'8"

10 1/4"

Percentage of strength of circ. end seams

plate

62.1

rivets

47

Percentage of strength of circ. intermediate seam

plate

rivets

✓

Percentage of strength of longitudinal joint

plate

84.75

rivets

88.7

Working pressure of shell by Rules

✓

Thickness of butt straps

outer

1 9/32"

inner

1 9/32"

No. and Description of Furnaces in each Boiler

3 cf.

Material

S

Tensile strength

26-30

Smallest outside diameter

47 23/32"

Length of plain part

top

✓

bottom

Thickness of plates

crown

47/64"

bottom

Description of longitudinal joint

weld

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

Working pressure of furnace by Rules

✓

End plates in steam space: Material

S

Tensile strength

26-30

Thickness

1 13/32"

Pitch of stays 20 1/4" x 18 1/2"

How are stays secured

Double nuts

Working pressure by Rules

✓

Tube plates: Material

front

S.

back

Tensile strength

26-30

Thickness

5/16"

7/8"

Mean pitch of stay tubes in nests

8.7"

Pitch across wide water spaces

14 1/2" x 7 1/4"

Working pressure

front

back

✓

Girders to combustion chamber tops: Material

S

Tensile strength

29-33

Depth and thickness of girder

at centre

11 3/4" x 1" dble.

Length as per Rule

46 1/2"

Distance apart

8 1/2" wing

9" G.

No. and pitch of stays

in each

3 @ 11 1/8"

Working pressure by Rules

✓

Combustion chamber plates: Material

S

Tensile strength

26-30

Thickness: Sides

13/16"

Back

23/32"

Top

13/16"

Bottom

29/32"

Pitch of stays to ditto: Sides

11 1/8" x 8 1/2"

Back

9 3/4" x 8"

Top

11 1/8" x 9"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

✓

Front plate at bottom: Material

S.

Tensile strength

26-30

Thickness

5/16"

Lower back plate: Material

S

Tensile strength

26-30

Thickness

5/16"

Pitch of stays at wide water space

15 3/8" x 8"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

Main stays: Material

S

Tensile strength

28-32

Diameter

At body of stay,

or

3 1/4" & 3 1/2"

No. of threads per inch

6

Area supported by each stay

✓

Working pressure by Rules

✓

Screw stays: Material

S

Tensile strength

26-30 2020

Diameter

At turned off part,

or

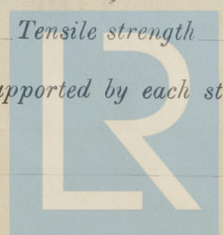
1 3/4" & 2"

No. of threads per inch

9

Area supported by each stay

✓

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002858-002869-0065

Working pressure by Rules ☒ Are the stays drilled at the outer ends ☒ Margin stays: Diameter { At turned off part, ☒ or Over threads 2 1/2" x 2" ☒
No. of threads per inch 9. Area supported by each stay ☒ Working pressure by Rules ☒
Tubes: Material S.D. Steel External diameter { Plain 2 1/2" ☒ Stay 2 1/2" ☒ Thickness { 8 L 3 1/4" ☒ 1/8" x 3/16" ☒ No. of threads per inch 9
Pitch of tubes 4" x 3 1/8" Working pressure by Rules ☒ 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 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 N.E. Marine Combustion Chamber Manufacturers of Tubes Stewart & Lloyds. Headers Stewart & Lloyds
Number of elements 36. Material of tubes S.D. Steel Internal diameter and thickness of tubes 2.173 x 7 W4.
Material of headers S.D. Steel Tensile strength 26-28 Thickness 1" 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 ☒ yes
Area of each safety valve 3.14 Are the safety valves fitted with casing gear ☒ yes Working pressure as per
Rules 220 lbs. Pressure to which the safety valves are adjusted 225 lbs. Hydraulic test pressure
tubes 1500 lbs. Headers forgings and castings 660 lbs. and after assembly in place 440 lbs. Are drain cocks on
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 NORTH EASTERN MARINE ENGINEERING CO. (1938) LTD.
The foregoing is a correct description,

John Nall
DIRECTOR

Manufacturers

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

Is this Boiler a duplicate of a previous case ☒ yes. If so, state Vessel's name and Report No. Empire Marwell 100316. Hwe

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been made & installed under Special Survey in accordance with the Approved Plan, the requirements of the Rules & the Specification. The materials & workmanship are good. The boilers proved sound & tight under hydraulic test & satisfactory under steam.

Survey Fee ... £ See Mchg Rpt. When applied for, 19
Travelling Expenses (if any) £ When received, 19

R. Moffitt
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE 16 JUN 1942

Assigned

See Std. 26. 33406



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