

## REPORT ON BOILERS.

No. 99259

Received at London Office

MAR 13 1941

Date of writing Report

19

When handed in at Local Office

12/3/10 41

Port of

NEWCASTLE-ON-TYNE

No. in  
Reg. Book.

Survey held at

Wallsend

Date, First Survey

12 July 1940

Last Survey

4 March 1941

on the

S.S. "EMPIRE. SILVER"

(Number of Visits)

Gross  
Tons  
Net

Built at

Sunderland

By whom built

Sir J. Laing &amp; Son Ltd

Yard No. 733

When built 1941

Engines made at

Wallsend

By whom made

NE. Marine Eng Co (1938) Ltd

Engine No. 2976

When made 1941

Boilers made at

"

By whom made

"

Boiler No. 2976

When made 1941

Nominal Horse Power

Owners

Ministry of Shipping

Port belonging to

Sunderland

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

Manufacturers of Steel

The Steel Co of Scotland &amp; Colvilles Ltd

(Letter for Record

S

Total Heating Surface of Boilers

10020 sq. ft.

Is forced draught fitted

yes

Coal or Oil fired

oil

No. and Description of Boilers

3 S.B.

Working Pressure

220

Tested by hydraulic pressure to

380

Date of test

19.12.40

No. of Certificate

876/877

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

✓

No. and Description of safety valves to each boiler

1 double improved high lift

Area of each set of valves per boiler

per Rule

8.88

as fitted

9.8

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

2'-6"

Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating

2'-9"

Is the bottom of the boiler insulated

yes.

Largest internal dia. of boilers

16'-2 3/4"

Length

12'-6"

Shell plates: Material

Steel

Tensile strength

30-34

Thickness

1 3/4"

Are the shell plates welded or flanged

no.

Description of riveting: circ. seams

end

DR

long. seams

T.R. D.B.S. (5 rivets)

Diameter of rivet holes in

circ. seams

1 9/16"

Pitch of rivets

4 1/8"

Percentage of strength of circ. end seams

plate

62.1

rivets

47

Percentage of strength of circ. intermediate seam

plate

✓

Percentage of strength of longitudinal joint

plate

84.75

rivets

88.7

combined

87.4.

Thickness of butt straps

outer

1 9/32"

inner

1 9/32"

No. and Description of Furnaces in each Boiler

3 cf.

Material

Steel

Tensile strength

26-30

Smallest outside diameter

47 3/4"

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

✓

End plates in steam space: Material

Steel

Tensile strength

26-30

Thickness

1 1/2"

Pitch of stays

22 1/4" x 18 1/2"

How are stays secured

Double nuts

Tube plates: Material

front

Steel

back

Tensile strength

26-30

Thickness

1 9/16"

7/8"

Mean pitch of stay tubes in nests

8.7"

Pitch across wide water spaces

14 1/2" x 7 1/4"

Girders to combustion chamber tops: Material

Steel

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" Centre.

No. and pitch of stays

in each

3 @ 11 1/8"

Combustion chamber plates: Material

Steel

Tensile strength

26-30

Thickness: Sides

1 3/16"

Back

2 3/32"

Top

1 3/16"

Bottom

2 9/32"

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

Front plate at bottom: Material

Steel

Tensile strength

26-30

Thickness

1 9/16"

Lower back plate: Material

Steel

Tensile strength

26-30

Thickness

1 9/16"

Pitch of stays at wide water space

15 1/8" x 8"

Are stays fitted with nuts or riveted over

nuts

Main stays: Material

Steel

Tensile strength

28-32

Diameter

At body of stay,

3 1/4" x 3 1/2"

Over threads

No. of threads per inch

6

Screw stays: Material

Steel

Tensile strength

26-30

Diameter

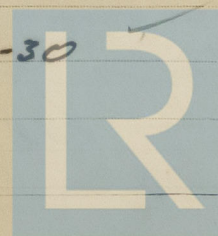
At turned off part,

1 3/4" x 2"

Over threads

No. of threads per inch

9



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Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 2 1/2" x 2" or Over threads 2 1/2" x 2" ✓  
No. of threads per inch 9 ✓  
Tubes: Material S.D. Steel External diameter { Plain 2 1/2 Stay 2 1/2 Thickness { 8 W.G. 3/8 + 3/8 No. of threads per inch 9 ✓  
Pitch of tubes 4 x 3 3/8" ✓ 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 \_\_\_\_\_ Steam Dome: Material none ✓  
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 \_\_\_\_\_ Thickness of crown \_\_\_\_\_ No. and diameter of  
stays \_\_\_\_\_ Inner radius of crown \_\_\_\_\_  
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.M. Combustion Chamber ✓ Manufacturers of { Tubes Stewarts & Lloyds Headers Stewarts & Lloyds Steel castings \_\_\_\_\_  
Number of elements 36 ✓ Material of tubes S.D. Steel ✓ Internal diameter and thickness of tubes 1.273 x 7 W.G. ✓  
Material of headers S.D. Steel ✓ Tensile strength 26.28 tons ✓ Thickness 1" ✓ Can the superheater be shut off and  
the boiler be worked separately no ✓ 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 sq" ✓ Are the safety valves fitted with easing gear yes ✓  
Pressure to which the safety valves are adjusted 225 lbs. ✓ Hydraulic test pressure: \_\_\_\_\_  
tubes 1500 lbs ✓ Headers 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 foregoing is a correct description,  
John Nall Manufacturer

Dates of Survey { During progress of work in shops - - } Are the approved plans of boiler and superheater forwarded herewith 20.1.40  
while building { During erection on board vessel - - } (If not state date of approval.)  
Total No. of visits \_\_\_\_\_

Is this Boiler a duplicate of a previous case ✓ If so, state Vessel's name and Report No. ✓

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers & superheaters have been made under special survey in accordance with the Requirements of The Rules & the Approved Plans.  
The materials & workmanship are good.  
The boilers were found sound & tight under hydraulic pressure & satisfactory under steam.

Survey Fee ... £ See Mch 4 Rpt : When applied for, \_\_\_\_\_ 10  
Travelling Expenses (if any) £ \_\_\_\_\_ : When received, \_\_\_\_\_ 10

Colloffito  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute \_\_\_\_\_

Assigned \_\_\_\_\_

FBI 21 MAR 1941

See Hld. 76 33055



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