

REPORT ON BOILERS.

No. 80118

17 FEB 1926

Received at London Office

Date of writing Report

192

When handed in at Local Office

4/2/1926

Port of

NEWCASTLE-ON-TYNE.

No. in
Reg. Book.

Survey held at Newcastle-on-Tyne

Date, First Survey

6 May 1925

Last Survey

3 Feb 1926

1926

38496 on the

CITY OF LYONS

(Number of Visits)

Tons

Gross

Net

Master

Built at Newcastle

By whom built

Swan Hunter & Wigham Richardson

Yard No.

1287

When built

1926

Engines made at

Newcastle

By whom made

Hallend Shipway & Engineering Co. Ltd.

Engine No.

861

When made

1926

Boilers made at

Newcastle

By whom made

Hallend Shipway & Engineering Co. Ltd.

Boiler No.

861

When made

1926

Nominal Horse Power

709

Owners

Ellerman Lines Ltd. (Hall Lines Ltd. Regd.)

Port belonging to

Liverpool

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

The Steel Company of Scotland Ltd.

(Letter for Record

S

Total Heating Surface of Boilers

9069 sq ft

Is forced draught fitted

Yes

Coal or Oil fired

Both

No. and Description of Boilers

Three single ended cylindrical

Working Pressure

240 lbs

Tested by hydraulic pressure to

410 lbs

Date of test

28-7-25

No. of Certificate

9932

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

76 sq ft

No. and Description of safety valves to each boiler

Two Spring-loaded High Lift

Area of each set of valves per boiler

per Rule

 $11.9 \times \frac{2}{3} = 7.9$

Pressure to which they are adjusted

240 lbs

Are they fitted with easing gear

Yes

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

No

N. R. V. fitted

Smallest distance between boilers or uptakes and bunkers or woodwork

5"

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

24"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

16'-9 1/4"

Length

12'-6"

Shell plates: Material

Steel

Tensile strength

31-35 Tons

Thickness

1 5/8"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end

Dark

long. seams

Jaffle

D.B.S.

Diameter of rivet holes in

circ. seams

1 3/32"

long. seams

1 2/32"

Pitch of rivets

4-6 1/11"

10 7/8"

Percentage of strength of circ. end seams

plate

85.7

rivets

43.57

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate

84.77

rivets

84.87

combined

85.63

Working pressure of shell by Rules

241 lbs

Thickness of butt straps

outer

1 3/8"

inner

1 3/8"

No. and Description of Furnaces in each Boiler

Four

Daington

Material

Steel

Tensile strength

26-30 Tons

Smallest outside diameter

41 3/4"

Length of plain part

top

bottom

Thickness of plates

crown

11"

bottom

16"

Description of longitudinal joint

Weld

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

None

Working pressure of furnace by Rules

241 lbs

End plates in steam space: Material

Steel

Tensile strength

26-30 Tons

Thickness

1 3/8"

Pitch of stays

17 3/4" x 15 3/8"

How are stays secured

Double nuts

Working pressure by Rules

255 lbs

Tube plates: Material

front

back

Steel

Steel

Tensile strength

26-30 Tons

Thickness

1 3/8"-1"

7/8"

Mean pitch of stay tubes in nests

10 3/4"

Pitch across wide water spaces

13 3/4"

Working pressure

front

353-284 lbs

back

240 lbs

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 Tons

Depth and thickness of girder

at centre

10 1/2"-1 1/2"

Length as per Rule

38 3/32"

Distance apart

7 1/4"

No. and pitch of stays

in each

Three 9 1/8"

Working pressure by Rules

243 lbs

Combustion chamber plates: Material

Steel

Tensile strength

26-30 Tons

Thickness: Sides

11/16"

Back

11/16"

Top

11/16"

Bottom

29"

32"

Pitch of stays to ditto: Sides

8 1/4" x 8 1/4"

Back

8 1/4" x 8 1/4"

Top

9 1/8" x 7 1/4"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

243 lbs

Front plate at bottom: Material

Steel

Tensile strength

26-30 Tons

Thickness

1"

Lower back plate: Material

Steel

Tensile strength

26-30 Tons

Thickness

15/16"

Pitch of stays at wide water space

14 3/8"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

259 lbs

Main stays: Material

Steel

Tensile strength

28-32 Tons

Diameter

At body of stay

or

Over threads

3 1/4" - 3"

No. of threads per inch

Six

Area supported by each stay

320-268 sq"

Working pressure by Rules

257 - 250 lbs

Screw stays: Material

Steel

Tensile strength

26-30 Tons

Diameter

At turned off part

or

Over threads

1 3/4"

No. of threads per inch

Nine

Area supported by each stay

68.5 sq"

002853-002857-0120

Lloyd's Register
Foundation

I
ST
Se
FLAT
" "
BOTTO
of S
BILGE
Stra
SIDE
Stra
UPPER
stra
UPPER
stra
STRAKE
stral
STRAKE
stral
POOP S
BRIDGE
FOREC'T
Total
MIDSH
"
"
"
COLLIS
AFTER
STEEL

Working pressure by Rules 2670" Are the stays drilled at the outer ends no. Margin stays: Diameter { At turned off part, or Over threads 2" ✓
No. of threads per inch nine Area supported by each stay 93.80" Working pressure by Rules 2640
Tubes: Material Iron External diameter { Plain 3" ✓ Thickness No. 8 S.P.C. No. of threads per inch nine ✓
Pitch of tubes 4 7/8" x 4 1/6" Working pressure by Rules plain 250 lbs Day 241 lbs Manhole compensation: Size of opening in
shell plate 19" x 15" ✓ Section of compensating ring 36" x 37 1/2" x 1 5/8" No. of rivets and diameter of rivet holes 36 - 1 3/2" ✓
Outer row rivet pitch at ends 10 7/8" Depth of flange if manhole flanged 3 7/8" ✓ Steam Dome: Material Iron ✓
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 Rash Eastern Marine Type ✓ Manufacturers of { Tubes Tubes Ltd.
Number of elements 56 x 3168 Material of tubes Solid drawn Steel Internal diameter and thickness of tubes 17mm 2 1/2mm
Material of headers Rolled Steel Tensile strength 26-30 tons Thickness 7/8" Can the superheater be shut off and
the boiler be worked separately Yes 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 2.40 sq" ✓ Are the safety valves fitted with easing gear Yes ✓ Working pressure as per plates 23 1/2
Rules 240 lbs ✓ Pressure to which the safety valves are adjusted 245 lbs ✓ Hydraulic test pressure
tubes Headers 720 lbs and after assembly in place 500 lbs ✓ Are drain cocks or valves fitted
to free the superheater from water where necessary Yes ✓

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with Yes ✓

FOR THE WALLSEND SLIPWAY & ENGINEERING CO. LIMITED.

N. Laving

The foregoing is a correct description, Manufacturer

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These Boilers have been constructed under special survey. The materials and workmanship are sound & good. They were satisfactorily subjected to hydraulic pressure, have been efficiently installed in the vessel & the safety valves have been adjusted under steam. The Superheaters were examined during manufacture & were subsequently examined under hydraulic test after being installed. The boilers are fitted with the Norden-Gunnstrom air preheaters.

Survey Fee £
Travelling Expenses (if any) £
When applied for, 192
When received, 192

R. Lee Ames
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 19 FEB 1926
Assigned See P.L. rpt attached