

REPORT ON BOILERS.

No. 86122

28 AUG 1930

Received at London Office

Date of writing Report

192

When handed in at Local Office 16th Aug 1930

Port of

NEWCASTLE-ON-TYNE

No. in Survey held at
Reg. Book.

Wallsend-on-Tyne.

Date, First Survey

6th Sept 1929

Last Survey

15th Aug 1930

1930

on the

New Steel M. V. "Lucerna"

(Number of Visits)

Gross 6556

Net 5928

Master

Built at

Jarrow.

By whom built

Palmer's S.S. & C. Co. Ltd

Yard No. 998

When built 1930

Engines made at

Wallsend

By whom made

Wallsend Slipway & C. Co. Ltd

Engine No. 894

When made 1930

Boilers made at

Wallsend.

By whom made

Wallsend Slipway & C. Co. Ltd.

Boiler No. 894

When made 1930

Nominal Horse Power

449

Owners

H. C. Moss & Coy.

Port belonging to Liverpool.

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

Manufacturers of Steel

A. G. Whittle & Sons Ltd.

(Letter for Record 5.)

Total Heating Surface of Boilers

2164 sq ft

Is forced draught fitted

yes

Coal or Oil fired

oil

No. and Description of Boilers

Two single ended.

Working Pressure

120 lbs

Tested by hydraulic pressure to

2300 lbs

Date of test

2-6-30

No. of Certificate

H69.

Can each boiler be worked separately

yes.

Area of Firegrate in each Boiler

oil fuel only.

No. and Description of safety valves to each boiler

Two spring loaded, high lift.

Area of each set of valves per boiler

per Rule 12.03

as fitted 4.96

Pressure to which they are adjusted

125 lbs

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 boiler uptakes and bunkers or woodwork

2'-0"

Is oil fuel carried in the double bottom under boilers

yes

Smallest distance between shell of boiler and tank top plating

2'-1"

Is the bottom of the boiler insulated

no

Largest internal dia. of boilers

10'-4 3/4"

Length

11'-6"

Shell plates: Material

Steel

Tensile strength

29 to 33 tons

Thickness

5/8"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

S.R.

long. seams

J. R. D. B. S.

Diameter of rivet holes in

circ. seams

15/16"

long. seams

13/16"

Pitch of rivets

2.095

4 1/16"

Percentage of strength of circ. end seams

plate

55.2

rivets

H2

Percentage of strength of circ. intermediate seam

plate

rivets

55.2

Percentage of strength of longitudinal joint

plate

81.4

rivets

83

Working pressure of shell by Rules

124 lbs.

Thickness of butt straps

outer

5/8"

inner

5/8"

No. and Description of Furnaces in each Boiler

Two corrugated (Doughton)

Material

Steel

Tensile strength

26 to 30 tons

Smallest outside diameter

2'-11 1/4"

Length of plain part

top

✓

bottom

Thickness of plates

crown

3/8"

bottom

Description of longitudinal joint

weld.

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

none

Working pressure of furnace by Rules

150 lbs.

End plates in steam space: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1"

Pitch of stays

20 3/4" x 2 1/2"

How are stays secured

double nuts.

Working pressure by Rules

121 lbs.

Tube plates: Material

front

Steel

back

Tensile strength

26 to 30 tons

Thickness

3/4"

1 1/16"

Mean pitch of stay tubes in nests

10 5/8"

Pitch across wide water spaces

13 1/4" x 7 1/4"

Working pressure

front 120.6 lbs

back 144 lbs

Girders to combustion chamber tops: Material

Steel

Tensile strength

29 to 33 tons

Depth and thickness of girder

at centre

2 @ 5/8" x 7 1/8"

Length as per Rule

2'-6 9/32"

Distance apart

10"

No. and pitch of stays

in each

2 @ 9 1/16"

Working pressure by Rules

123 lbs.

Combustion chamber plates: Material

Steel

Tensile strength

26 to 30 tons

Thickness: Sides

1 1/32"

Back

1 1/32"

Top

1 1/32"

Bottom

1 1/32"

Pitch of stays to ditto: Sides

9 1/16" x 10"

Back

10" x 9"

Top

10" x 9 1/16"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

128 lbs.

Front plate at bottom: Material

Steel

Tensile strength

26 to 30 tons

Thickness

3/4"

Lower back plate: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1 1/16"

Pitch of stays at wide water space

14" x 9"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

137 lbs.

Main stays: Material

Steel

Tensile strength

28 to 32 tons

Diameter

At body of stay,

2 3/4"

or

Over threads

No. of threads per inch

6

Area supported by each stay

415"

Working pressure by Rules

133 lbs.

Screw stays: Material

Steel

Tensile strength

26 to 30 tons

Diameter

At turned off part,

1 1/2"

or

Over threads

No. of threads per inch

9

Area supported by each stay

94.4"

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Working pressure by Rules 132 lbs. Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 1 5/8" or Over threads 1 5/8" ✓

No. of threads per inch 9 Area supported by each stay 108" Working pressure by Rules 140 lbs.

Tubes: Material Steel External diameter { Plain 2 1/2" Stay 2 1/2" Thickness { 11 L.S.G. 4 x 5/16 No. of threads per inch 9

Pitch of tubes 3 5/8 x 3 3/4 Working pressure by Rules 140 lbs. Manhole compensation: Size of opening in shell plate 19 1/2 x 15 1/2 Section of compensating ring 10 x 5/8 No. of rivets and diameter of rivet holes 44 @ 2 1/2" ✓

Outer row rivet pitch at ends 4 1/2" Depth of flange if manhole flanged 2 5/8" Steam Dome: Material none.

Tensile strength 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 Smoke box type Babcock & Wilcox Ltd. Manufacturers of Tubes Steel castings ✓

Number of elements 36 Material of tubes S.D. Steel Internal diameter and thickness of tubes 1 1/4 x 10 L.S.G. ✓

Material of headers Steel Tensile strength ✓ Thickness ✓ 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 1.47 sq ft Are the safety valves fitted with easing gear yes Working pressure as per Rules 120 lbs Pressure to which the safety valves are adjusted 125 lbs Hydraulic test pressure: tubes ✓ castings ✓ and after assembly in place 250 lbs Are drain cocks or 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,
FOR THE WALLSEND SLIPWAY & ENGINEERING CO. LIMITED. Manufacturer.

Dates of Survey { During progress of work in shops - - - See Weekly Report
while building { During erection on board vessel - - -

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) yes.

Total No. of visits

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
These Boilers have been built under Special Survey. Materials & workmanship good. Hydraulic tests satisfactory. They have been efficiently installed & fixed in place, examined under steam & safety valves adjusted.

12 x 15 1/2
11 x 10 1/2
10 x 8 1/2
9 x 7 1/2
8 x 6 1/2
7 x 5 1/2
6 x 4 1/2
5 x 3 1/2
4 x 2 1/2
3 x 1 1/2
2 x 1 1/2
1 x 1 1/2

Survey Fee ... £ : : When applied for, 192

Travelling Expenses (if any) £ : : When received, 192

William Butler
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 5 SEP 1930

Assigned See F. E. Rep.