

REPORT ON BOILERS.

No. 71816

Received at London Office

27 JUN 1947

Date of writing Report 16.6.1947 When handed in at Local Office 24.6.1947

Port of Glasgow

No. in Survey held at 7. Book.

Glasgow

Date, First Survey 14.3.46

Last Survey 5.6.1947

(Number of Visits)

Tons

Gross 8750.8646
Net 5053

Who on the

T.W. Sc. M/V. SANGOLA

Master

Built at Glasgow

By whom built Barclay, Currie & Co. Ltd. Yard No. 707 When built 1947.

Engines made at

Glasgow

By whom made Barclay, Currie & Co. Ltd. Engine No. 707 When made 1947.

Boilers made at

Glasgow

By whom made Barclay, Currie & Co. Ltd. Boiler No. 707 When made 1947.

Nominal Horse Power

Owners British India Steam Navigation Co. Ltd. Port belonging to London.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Chas. L.

(Letter for Record 5.)

Total Heating Surface of Boilers

3495 sq. ft.

Is forced draught fitted

Yes

Coal or Oil fired Oil

No. and Description of Boilers

1 Horizontal Return Tube Type

Working Pressure 120 lbs.

Tested by hydraulic pressure to

230 lbs

Date of test 6.2.47

No. of Certificate

22343

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

3 1/2" Donkey I.H.L.

Area of each set of valves per boiler

per Rule 16.18 E
as fitted 14.232 E

Pressure to which they are adjusted 120 lbs. 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

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

Largest internal dia. of boilers

16'-6"

Length

11'-9"

Shell plates: Material

Steel

Tensile strength 29/33 T.

Thickness

29/32"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end

inter

Donkey

Long. seams

Donkey I.H.L.

Diameter of rivet holes in

circ. seams

1"

long. seams

1"

Pitch of rivets

3.219"

67/8"

Percentage of strength of circ. end seams

plate 69.5
rivets 42.5

Percentage of strength of circ. intermediate seam

plate
rivets

Percentage of strength of longitudinal joint

plate 85.6
rivets 94.0
combined 89.7

Working pressure of shell by Rules

123 lbs.

Thickness of butt straps

outer 11/16
inner 13/16

No. and Description of Furnaces in each Boiler

11 Diagonal Section

Material

Steel

Tensile strength

26/30 T.

Smallest outside diameter

41 1/4"

Length of plain part

top 9 3/4
bottom 9 3/4

Thickness of plates

crown 3/8
bottom 3/16

Description of longitudinal joint

Welded

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

Working pressure of furnace by Rules

128 lbs.

End plates in steam space: Material

Steel

Tensile strength

26/30 T.

Thickness

1 1/16"

Pitch of stays 18 x 23

How are stays secured

Nuts both sides

Working pressure by Rules

122 lbs.

Tube plates: Material

front Steel
back Steel

Tensile strength

26/30 T.

Thickness

11/16"

front

133 lbs.

Mean pitch of stay tubes in nests

9.7"

Pitch across wide water spaces

13 1/2"

Working pressure

front

122 lbs.

Orders to combustion chamber tops: Material

Steel

Tensile strength

28/32 T.

Depth and thickness of girder

2 @ 8 1/2" x 11/16"

Length as per Rule

34.7

Distance apart

8 1/2" or 10 1/4"

No. and pitch of stays

each 2 @ 11"

Working pressure by Rules

136 lbs.

Combustion chamber plates: Material

Steel

Tensile strength

26/30 T.

Thickness: Sides

21/32"

Back

19/32"

Top

21/32"

Bottom

21/32"

Pitch of stays to ditto: Sides

11 1/4" x 11"

Back

10 x 10"

Top

10 1/2" x 11"

Are stays fitted with nuts or riveted over

Nuts

Working pressure by Rules

120 lbs.

Front plate at bottom: Material

Steel

Tensile strength

26/30 T.

Thickness

11/16"

Lower back plate: Material

Steel

Tensile strength

26/30 T.

Thickness

21/32"

Pitch of stays at wide water space

13 1/2"

Are stays fitted with nuts or riveted over

Nuts

Working Pressure

138 lbs.

Main stays: Material

Steel

Tensile strength

28/32 T.

Diameter

At body of stay, or Over threads

2 5/8"

No. of threads per inch

6

Area supported by each stay

18 x 23"

Working pressure by Rules

143 lbs.

Screw stays: Material

Steel

Tensile strength

26/30 T.

Diameter

At turned off part, or Over threads

1 3/4"

No. of threads per inch

9

Area supported by each stay

10 x 10"

004698-004702-0262

Lloyd's Register Foundation

Working pressure by Rules 125 lbs. Are the stays drilled at the outer ends Yes Margin stays: Diameter 1 3/4" ^{At turned off part,} ^{or} ^{Over threads} 1 3/4" 1 5/8"
No. of threads per inch 9 Area supported by each stay 11 3/4" x 10" Working pressure by Rules 129 lbs.
Tubes: Material Steel External diameter 2 1/2" Thickness 5/16" No. of threads per inch 9
Pitch of tubes 3 3/4" Working pressure by Rules 145 lbs. 125 plain Manhole compensation: Size of opening 16 x 12
shell plate 16 x 12 Section of compensating ring 2 1/2" x 2 1/2" No. of rivets and diameter of rivet holes 49 @ 1 1/2"
Outer row rivet pitch at ends 7 1/2" Depth of flange if manhole flanged 3 1/4" 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 ✓ Working pressure by Rules ✓ Thickness of crown ✓ No. and diameter ✓
stays ✓ Inner radius of crown ✓ Working pressure by Rules ✓
How connected to shell ✓ Size of doubling plate under dome ✓ Diameter of rivet holes and ✓
of rivets in outer row in dome connection to shell ✓

Type of Superheater None Manufacturers of ✓ ^{Tubes} ^{Steel forgings} ^{Steel castings}
Number of elements ✓ Material of tubes ✓ Internal diameter and thickness of tubes ✓
Material of headers ✓ Tensile strength ✓ Thickness ✓ Can the superheater be shut off ✓
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 ✓ Working pressure as ✓
Rules ✓ Pressure to which the safety valves are adjusted ✓ Hydraulic test pressure ✓
tubes ✓ forgings and castings ✓ and after assembly in place ✓
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 foregoing is a correct description.
A. Macaill.
Chief Draughtsman



Dates of Survey During progress of work in shops - - See attached Are the approved plans of boiler and superheater forwarded herewith ✓
while building During erection on board vessel - - machinery report (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.)

This Boiler has been constructed under Special Survey, in accordance with the approved plans. The materials & workmanship are good. The Boiler has been satisfactorily installed in the vessel, examined under steam & the safety valve adjusted under steam to the working pressure of 120 lbs./sq. in.

ML-D

Survey Fee ... £ 34 : 19 : 0 } When applied for, 26 JUN 1947 19
Travelling Expenses (if any) £ : ✓ : } When received, 19

A. K. Ludden. & for R. H. Morris.
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute GLASGOW 24 JUN 1947

Assigned SEE ACCOMPANYING MACHINERY REPORT

