

## REPORT ON BOILERS.

No. 41129.

Received at London Office 21 AUG 1930

Date of writing Report

20: 8. 1930

When handed in at Local Office

20 Aug. 1930

Port of

HULL.

No. in  
Reg. Book.

Survey held at

1 Hull

Date, First Survey

5 May 1930

Last Survey

18 Aug 1930

(Number of Visits

25)

Gross

646.89

Tons

Net

285.84

Master

Built at

Hull

By whom built

Charles S.B. &amp; Co. Ltd

Yard No.

678

When built

1930

Engines made at

Hull

By whom made

do

Engine No.

678

When made

1930

Boilers made at

Hull

By whom made

do

Boiler No.

678

When made

1930

Nominal Horse Power

116

Owners

Emprego Do Limpopo (A. Couto)

Port belonging to

Lourenço Marques

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Appley Iron Co. Ltd - Nottingham I.R. &amp; Co. Ltd

(Letter for Record

S.)

Total Heating Surface of Boilers

2240 Sq. ft.

Is forced draught fitted

No

Coal or Oil fired

coal

No. and Description of Boilers

Two Single end return tube

Working Pressure

180 lbs.

Tested by hydraulic pressure to

320 lbs.

Date of test

16.7.30

No. of Certificate

3789

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

35 sq. ft.

No. and Description of safety valves to each boiler

2 Spring loaded

Area of each set of valves per boiler

(per Rule  
as fitted4.18 sq. ft.  
7.95 sq. ft.

Pressure to which they are adjusted

180 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

4'-6"

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

Largest internal dia. of boilers

11'-6"

Length

10'-0"

Shell plates: Material

Steel

Tensile strength

29/33 Tons

Thickness

3 1/32"

Are the shell plates welded or flanged

Yes

Description of riveting: circ. seams

end

inter.

long. seams

T.R. S.B.S.

Diameter of rivet holes in

circ. seams

1 1/8"

Pitch of rivets

3 1/2"

6 1/4"

Percentage of strength of circ. end seams

plate

67.8

rivets

45.8

Percentage of strength of circ. intermediate seam

plate

83.1

rivets

Percentage of strength of longitudinal joint

plate

91.4

combined

Working pressure of shell by Rules

184 lbs.

Thickness of butt straps

outer 13/16"

inner 15/16"

No. and Description of Furnaces in each Boiler

Two Brighton's

Material

Steel

Tensile strength

26/30 Tons

Smallest outside diameter

41 1/4"

Length of plain part

top 10 1/2"

bottom

Thickness of plates

crown 7/32"

bottom

Description of longitudinal joint

welded

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

Yes

Working pressure of furnace by Rules

186 lbs.

End plates in steam space: Material

Steel

Tensile strength

26/30 Tons

Thickness

3/32"

Pitch of stays

16 x 14 3/4"

How are stays secured

Double nuts.

Working pressure by Rules

182 lbs.

Tube plates: Material

front Steel

back -

Tensile strength

26/30 Tons.

Thickness

7/8"

27/32"

Mean pitch of stay tubes in nests

11.875

Pitch across wide water spaces

14"

Working pressure

front 183

back 182

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32 Tons

Depth and thickness of girder

at centre

9 1/4" x 1 1/2"

Length as per Rule

29 3/4"

Distance apart

11 3/4"

No. and pitch of stays

in each

3 @ 4"

Working pressure by Rules

191 lbs.

Combustion chamber plates: Material

Steel

Tensile strength

26/30 Tons.

Thickness: Sides

2 1/32"

Back

4 1/6"

Top

2 3/32"

Bottom

2 1/32"

Pitch of stays to ditto: Sides

10 5/8" x 4"

Back

10" x 9"

Top

11 3/4" x 4"

Are stays fitted with nuts or riveted over

nuts.

Working pressure by Rules

182 lbs.

Front plate at bottom: Material

Steel

Tensile strength

26/30 Tons

Thickness

7/8"

Lower back plate: Material

Steel

Tensile strength

26/30 Tons.

Thickness

27/32"

Pitch of stays at wide water space

14" x 9"

Are stays fitted with nuts or riveted over

nuts.

Working Pressure

210

Main stays: Material

Steel

Tensile strength

28/32 Tons.

Diameter

At body of stay,  
or  
Over threads

2 1/2"

No. of threads per inch

6

Area supported by each stay

236 sq. in.

Working pressure by Rules

187 lbs.

Screw stays: Material

Steel

Tensile strength

26/30 Tons.

Diameter

At turned off part,  
or  
Over threads

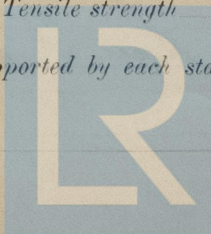
1 7/8" x 1 3/4"

No. of threads per inch

9

Area supported by each stay

90 sq. in.





Working pressure by Rules **202 lb** Are the stays drilled at the outer ends **no** Margin stays: Diameter { At turned off part, **1 7/8"** or Over threads **1 7/8"**  
No. of threads per inch **9** Area supported by each stay **115 lb** Working pressure by Rules **185 lbs.**  
Tubes: Material **lin** External diameter { Plain **3 1/2"** Thickness { **5/16"** No. of threads per inch **9**  
Pitch of tubes **4 3/4"** Working pressure by Rules **215 lbs.** Manhole compensation: Size of opening in  
shell plate **16" x 12"** Section of compensating ring **33" x 28" x 3 1/32"** No. of rivets and diameter of rivet holes **24 @ 1 1/8"**  
Outer row rivet pitch at ends **6 1/4"** Depth of flange if manhole flanged **✓** Steam Dome: Material  
Tensile strength **870** Thickness of shell **5/16"** Description of longitudinal joint  
Diameter of rivet holes **3/8"** Pitch of rivets **2"** Percentage of strength of joint { Plate **870** or Rivets  
Internal diameter **28"** Working pressure by Rules **215 lbs.** Thickness of crown **5/16"** No. and diameter of  
stays **2** Inner radius of crown **12"** Working pressure by Rules **215 lbs.**  
How connected to shell **by stays** Size of doubling plate under dome **16" x 12"** Diameter of rivet holes and pitch  
of rivets in outer row in dome connection to shell **24 @ 1 1/8"**

**Type of Superheater**

Manufacturers of { Tubes **W. & A. Mitchell** Steel castings **W. & A. Mitchell**  
Number of elements **2** Material of tubes **lin** Internal diameter and thickness of tubes **3 1/2" x 5/16"**  
Material of headers **lin** Tensile strength **870** Thickness **5/16"** 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  
Area of each safety valve **1 1/2"** Are the safety valves fitted with easing gear **no** Working pressure as per  
Rules **202 lb** Pressure to which the safety valves are adjusted **202 lb** Hydraulic test pressure:  
tubes **240 lb** castings **240 lb** and after assembly in place **240 lb** Are drain cocks or valves fitted  
to free the superheater from water where necessary **no**

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with **yes**

**FOR EARLE'S**

**SHIPBUILDING & ENGINEERING CO. LIMITED**  
The foregoing is a correct description,  
**G. H. Stafford** Manufacturer.

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

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.)

**This boiler has been built under Special Survey & in accordance with the approved plan, & the materials & workmanship are sound & good. It has been satisfactorily fitted on board examined under steam, & its safety valves adjusted under steam.**

Survey Fee

Travelling Expenses (if any)

When applied for, **✓**

192

When received, **✓**

192

Committee's Minute

**FRI. 22 AUG 1930**

**FRI. 19 DEC 1930**

Assigned

**See F. E. Rpt.**

**W. H. Waggett**

Engineer Surveyor to Lloyd's Register of Shipping.



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