

## REPORT ON BOILERS.

No. 50931

Received at London Office

29 OCT 1930

Date of writing Report

19

When handed in at Local Office

20 10 1930

Port of

Glasgow

No. in Reg. Book.

Survey held at

Paisley

Date, First Survey

25.4.30

Last Survey

17th Oct 1930

on the

Twin Sc. S.S. "HIRAVATI"

(Number of Visits 40)

Gross 580

Net 246

Master

Built at

Paisley

By whom built

Bow &amp; M'Lachlan &amp; Co. Ltd

Card No.

493

When built 1930

Engines made at

Paisley

By whom made

Bow &amp; M'Lachlan &amp; Co. Ltd

Engine No.

4019

When made 1930

Boilers made at

Paisley

By whom made

Bow &amp; M'Lachlan &amp; Co. Ltd

Boiler No.

1209

When made 1930

Nominal Horse Power

Owners

Bombay S. Nav. Co. Ltd

Port belonging to

Bombay

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

Manufacturers of Steel

James Dunlop &amp; Co. Ltd. D. Colville &amp; Sons

(Letter for Record S)

Total Heating Surface of Boilers

4266 sq ft

Is forced draught fitted

yes

Coal or Oil fired

yes

No. and Description of Boilers

One double ended cylinder return tube

Working Pressure 200 lbs.

Tested by hydraulic pressure to

350 lbs.

Date of test

25-8-30

No. of Certificate

18784

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

✓

No. and Description of safety valves to each boiler

One Pair 3 1/4" S.H.L. Cockburn's type.

Area of each set of valves per boiler

{ per Rule

14.35 sq in

{ as fitted

16.58

Pressure to which they are adjusted

200 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 boilers or uptakes and bunkers

on woodwork

24"

Is oil fuel carried in the double bottom under boilers

✓

Smallest distance between shell of boiler and tank top plating

24"

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

14' 0 3/8"

Length

18' 6"

Shell plates: Material

Steel

Tensile strength 28-32 tons

Thickness

1 5/16"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

{ end

D.R. Lap.

{ inter.

T.R. Lap.

long. seams

T.R.D.B.S.

Diameter of rivet holes in

{ circ. seams

1 7/16"

{ long. seams

1 5/16"

Pitch of rivets

{ 4.007"

{ 4.009"

{ 9.375"

Percentage of strength of circ. end seams

{ plate

64.00

{ rivets

50.50

Percentage of strength of circ. intermediate seam

{ plate

68.00

{ rivets

64.50

Percentage of strength of longitudinal joint

{ plate

82.79

{ rivets

184.50

{ combined

108.80

Working pressure of shell by Rules

200.2 lbs.

Thickness of butt straps

{ outer

1"

{ inner

1 1/8"

No. and Description of Furnaces in each Boiler

6 off Corrugated Slight Section

Material

Steel

Tensile strength

26-30 tons

Smallest outside diameter

43.188"

Length of plain part

{ top

✓

Thickness of plates

{ crown

1 9/32"

{ bottom

✓

Description of longitudinal joint

Welded

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

✓

Working pressure of furnace by Rules

200 lbs.

End plates in steam space: Material

Steel

Tensile strength

26-30 tons

Thickness

1 1/8"

Pitch of stays 18" x 15"

How are stays secured

Nuts inside &amp; outside

Working pressure by Rules

213 lbs.

Tube plates: Material

{ front

Steel

{ back

"

Tensile strength

26-30 tons

Thickness

3/32"

1 1/16"

Mean pitch of stay tubes in nests

8.44"

Pitch across wide water spaces

13"

Working pressure

{ front

214 lbs

{ back

204

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 tons

Depth and thickness of girder

at centre

8" 2 @ 1/16"

Length as per Rule

28.2"

Distance apart

7 1/2"

No. and pitch of stays

in each

2 @ 9 1/2"

Working pressure by Rules

264 lbs.

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons

Thickness: Sides

2 1/32"

Back

2 1/32"

Top

2 1/32"

Bottom

2 3/32"

Pitch of stays to ditto: Sides

9 1/4" x 7 1/4"

Back

8 1/2" x 8 1/2"

Top

9 1/2" x 7 1/2"

Are stays fitted with nuts or riveted over

yes

Working pressure by Rules

200 lbs.

Front plate at bottom: Material

Steel

Tensile strength

26-30 tons

Thickness

3/32"

Lower back plate: Material

Steel

Tensile strength

26-30 tons

Thickness

3/32"

Pitch of stays at wide water space

13"

Are stays fitted with nuts or riveted over

yes

Working Pressure

203 lbs.

Main stays: Material

Steel

Tensile strength

28-32 tons

Diameter

{ At body of stay,

2 7/8"

{ or

Over threads

No. of threads per inch

6

Area supported by each stay

270 sq inches

Working pressure by Rules

226 lbs.

Screw stays: Material

Steel

Tensile strength

26-30 tons

Diameter

{ At turned off part,

1 3/4"

{ or

Over threads

No. of threads per inch

9

Area supported by each stay

76 sq inches

002825-002829-0174

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Working pressure by Rules 238 lb Are the stays drilled at the outer ends no Margin stays: Diameter At turned off part, 7/8" or Over threads ✓  
No. of threads per inch ✓ Area supported by each stay ✓ Working pressure by Rules 7 L.S.G.  
Tubes: Material L.V.W.1 External diameter 2 1/2" Thickness 3/8" & 7/16" No. of threads per inch 9  
Pitch of tubes 3 1/2" x 3 3/4" Working pressure by Rules 206 lb Manhole compensation: Size of opening in  
shell plate 16" x 12" Section of compensating ring 8" x 1 5/16" No. of rivets and diameter of rivet holes 32 off. 1 5/16"  
Outer row rivet pitch at ends 9 3/8" Depth of flange if manhole flanged ✓ Steam Dome: Material ✓  
Tensile strength Thickness of shell Description of longitudinal joint  
Diameter of rivet holes Pitch of rivets Percentage of strength of joint Plate  
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 pitch  
of rivets in outer row in dome connection to shell

Type of Superheater

Number of elements Material of tubes Manufacturers of Tubes  
Material of headers Tensile strength Steel castings Internal diameter and thickness of tubes  
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 per  
Rules Pressure to which the safety valves are adjusted Hydraulic test pressure:  
tubes, castings and after assembly in place Are drain cocks or 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,

W. G. L. & CO. LTD.

Manufacturer

Dates of Survey During progress of work in shops - -  
while building During erection on board vessel - -

See Accompanying machy report

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

Total No. of visits 40

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

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

This boiler has been built under survey in accordance with the Rules and approved plan the materials and workmanship are good. The boiler has been properly secured on board, safety valves adjusted under steam and found satisfactory

Safety valve washers Port Valve 3/8" Starboard Valve 1/32"

Survey Fee ... £ : ✓ : When applied for, 19  
Travelling Expenses (if any) £ : : When received, 19

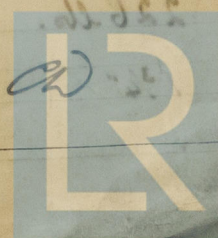
G. E. Murdoch

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW

28 OCT 1930

Assigned See Accompanying machy report



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