

Rpt. 5a.

REPORT ON BOILERS.

No. 55954

31 JUL 1935

Received at London Office

Date of writing Report

19

When handed in at Local Office

29. 7. 1935

Port of Glasgow

No. in Survey held at
eg. Book.

Glasgow

Date, First Survey

6. 4. 34

Last Survey

25. 7. 1935

(Number of Visits 137)

Gross

8031

Net

4804

on the

new steel S/S "MARWARRI".

Built at

Port Glasgow

By whom built

W. Hamilton & Co. Ltd.

Yard No. 417

When built 1935

Engines made at

Glasgow

By whom made

Davis Rowan & Co. Ltd.

Engine No. 969

When made 1935

Boilers made at

Glasgow

By whom made

Davis Rowan & Co. Ltd.

Boiler No. 969

When made 1935

Nominal Horse Power

1150

Owners

T & J. Brocklebank & Co. Ltd.

Port belonging to

Liverpool

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

B. Whittles Ltd.

(Letter for Record (7))

Total Heating Surface of Boilers

14060 sq. ft.

Is forced draught fitted

yes

Coal or Oil fired

coal

Working Pressure

250 lbs

No. and Description of Boilers

Four single ended

24ft-19490

24ft-19510

Can each boiler be worked separately

yes

Tested by hydraulic pressure to

425 lbs

Data of test

24ft-7-2-35

No. of Certificate

Two Improved High Dip

Area of Firegrate in each Boiler

68 sq. ft.

No. and Description of safety valves to each boiler

Two Improved High Dip

Area of each set of valves per boiler

per Rule 8.30"
as fitted 9.820"

Pressure to which they are adjusted

250 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

2'-4"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

2'-0"

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

17'-0"

Length

12'-6"

Shell plates: Material

Steel

Tensile strength

34-38 tons

Thickness of shell plates

1 3/4" & 1 5/8"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

inter.

W.R. T.R.

Pitch of rivets

W.R.S. T.R.

Diameter of rivet holes in

circ. seams

F 1 1/2" C 1 3/4" B 1 3/4"

long. seams

Pitch of rivets

F 3.707" C 4.755" B 4.6"

11 1/8"

Percentage of strength of circ. end seams

plate

F 57.8. C 63.2. B 62

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate

84.2

Working pressure of shell by Rules

251

Thickness of butt straps

outer

1 1/4"

inner

1 3/8"

No. and Description of Furnaces in each Boiler

Four Deighton Corrugated

Material

Steel

Tensile strength

26-30 tons

Smallest outside diameter

3'-6 3/16"

Length of plain part

top

bottom

Thickness of plates

crown

bottom

Description of longitudinal joint

welded

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

—

Working pressure of furnace by Rules

250

End plates in steam space: Material

Steel

Tensile strength

26-30 tons

Thickness

1 7/16"

Pitch of stays

17 3/4" x 21 1/2"

How are stays secured

W.N.

Working pressure by Rules

250

Sub plates: Material

front

Steel

Tensile strength

26-30 tons

Thickness

15 1/16"

C 2 3/8"

W 1 3/16"

Lean pitch of stay tubes in nests

9 1/4"

Pitch across wide water spaces

13 1/2"

Working pressure

front

257

back

252

Risers to combustion chamber tops: Material

Steel

Tensile strength

28-32 tons

Depth and thickness of girder

Centre

2 @ 10 1/2" x 7/8"

Length as per Rule

37 3/8"

Distance apart

8 3/4"

No. and pitch of stays

Each

3 @ 9"

Working pressure by Rules

253

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons

Thickness: Sides

3/4"

Back

2 3/32"

Top

3/4"

Bottom

7/8"

Pitch of stays to ditto: Sides

9" x 8 3/4"

Back

8 1/4" x 8 3/4"

Top

9" x 8 3/4"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

251

Front plate at bottom: Material

Steel

Tensile strength

26-30 tons

Thickness

15 1/16"

Lower back plate: Material

Steel

Tensile strength

26-30 tons

Thickness

15 1/16"

Pitch of stays at wide water space

13 1/2"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

250

Main stays: Material

Steel

Tensile strength

28-32 tons

Diameter

At body of stay,

or

Over threads

3 1/2" & 3 1/4"

No. of threads per inch

6

Area supported by each stay

393" & 370"

Working pressure by Rules

273 & 250

Screw stays: Material

Iron

Tensile strength

21 1/2 tons

Diameter

At turned off part,

or

Over threads

1 3/4" & 1 1/8"

No. of threads per inch

9

Area supported by each stay

72" & 78.7"

005436-005442-0037

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Foundation

Working pressure by Rules 251 & 271 Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 2" or Over threads. 2" ✓
No. of threads per inch 9 Area supported by each stay 91.5" Working pressure by Rules 269
Tubes: Material Iron External diameter { Plain 2 1/2" Stay 2 1/2" Thickness { 3/8" 1 1/8" 1 1/2" No. of threads per inch 9
Pitch of tubes 3 3/4" x 3 5/8" Working pressure by Rules 300 Manhole compensation: Size of opening in shell plate 19 1/2" x 15 1/2" Section of compensating ring 11 3/4" x 17 1/8" No. of rivets and diameter of rivet holes 36 @ 1 3/4" ✓
Outer row rivet pitch at ends 1 1/8" Depth of flange if manhole flanged 3" 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 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 Sugden Manufacturers of { Tubes See Esb Special Certificate C8957 Steel castings for particulars of superheater
Number of elements _____ Material of tubes _____ Internal diameter and thickness of tubes _____
Material of headers _____ Tensile strength _____ Thickness _____ 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 yes ✓
Area of each safety valve 1.770" Are the safety valves fitted with easing gear yes ✓ Working pressure as per Rules _____ Pressure to which the safety valves are adjusted 258 lb Hydraulic test pressure: tubes _____, castings _____ and after assembly in place 500 lb 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 David Rowan & Co. Ltd Manufacturer.
Arch. H. Grierson

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

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

SEE ACCOMPANYING MACHINERY REPORT.

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.)

The materials and workmanship are good
The boiler has been constructed under special survey, satisfactorily fitted in the vessel and their safety valves adjusted.
#29/7/35

Survey Fee £ See Machinery Rpt When applied for, 10

Travelling Expenses (if any) £ See Machinery Rpt When received, 10

S. J. Davis

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 30 JUL 1935

FRI. 3 JAN 1936

Assigned SEE ACCOMPANYING MACHINERY REPORT.



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