

REPORT ON BOILERS.

No. 19121.

Received at London Office

Date of writing Report 15-10-1929 When handed in at Local Office 14-11-1929 Port of Greenock

No. in Survey held at Reg. Book.

Greenock

Date, First Survey 13th December 1928. Last Survey 14th November 1929.

(Number of Visits)

Gross 4615.56.

Tons

Net 2898.13.

on the

S/S "Bibury"

Master Built at Greenock By whom built Messrs Duncan's Yard No. 393 When built 1929

Engines made at Greenock By whom made Rankine & Blackmore & Co Ltd Engine No. 434 When made 1929

Boilers made at ditto By whom made ditto Boiler No. 434 When made 1929

Nominal Horse Power 489 Owners Alexandre Duffin & Co Ltd Port belonging to London.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

James Dunlop & Co Ltd

(Letter for Record S)

Total Heating Surface of Boilers

6060 sq ft

Is forced draught fitted

yes

Coal or Oil fired

coal

No. and Description of Boilers

Two single ended

Working Pressure 200 lbs

Tested by hydraulic pressure to 350 lbs Date of test 29-8-29 No. of Certificate 1887 Can each boiler be worked separately yes

Area of Firegrate in each Boiler 55 sq ft No. and Description of safety valves to each boiler One double lockburn's Improved High Lift

Area of each set of valves per boiler per Rule 8.82 sq ft as fitted 11.88 sq ft Pressure to which they are adjusted 205 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 or woodwork

10 1/2"

Is oil fuel carried in the double bottom under boilers no

Smallest distance between shell of boiler and tank top plating

24"

Is the bottom of the boiler insulated yes

Largest internal dia. of boilers 15'-10 9/16" Length 11'-6"

Shell plates: Material

S

Tensile strength 28-32 TNS

Thickness

1 7/16"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

Double

long. seams

Fr. D.B.S.

Diameter of rivet holes in

circ. seams

1 1/2"

Pitch of rivets

4.308"

Percentage of strength of circ. end seams

plate

65.2

rivets

46.8

Percentage of strength of circ. intermediate seam

plate

✓

rivets

✓

Percentage of strength of longitudinal joint

plate

85.3

rivets

92.4

combined

89.15

Working pressure of shell by Rules

201 lbs

Thickness of butt straps

outer

1 3/32"

inner

1 1/32"

No. and Description of Furnaces in each Boiler

Three Deighton Type 3 Cf.

Material

S

Tensile strength

26-30 TNS

Smallest outside diameter

3'-8 1/4"

Length of plain part

top

✓

bottom

✓

Thickness of plates

crown

5/8"

bottom

5/8"

Description of longitudinal joint

weld

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

Working pressure of furnace by Rules

206 lbs

End plates in steam space: Material

S

Tensile strength

26-30 TNS

Thickness

1 3/8"

Pitch of stays 1'-11" x 1'-6 7/8"

How are stays secured

nuts inside & outside

Working pressure by Rules

200.5 lbs

Tube plates: Material

front

S

back

S

Tensile strength

26-30 TNS

Thickness

1 1/8"

Mean pitch of stay tubes in nests

9 1/16"

Pitch across wide water spaces 13 1/2" x 7 3/4"

Working pressure

front 206 lbs

back 203.5 lbs

Girders to combustion chamber tops: Material

S

Tensile strength

28-32 TNS

Depth and thickness of girder

at centre

10 1/4" x 1 1/2"

Length as per Rule

2'-10 15/32"

Distance apart

9 1/4"

No. and pitch of stays

in each

3 @ 8 7/8"

Working pressure by Rules

229 lbs

Combustion chamber plates: Material

S

Tensile strength

26-30 TNS

Thickness: Sides

1 1/8"

Back

23/32"

Top

1 1/8"

Bottom

1 1/8"

Pitch of stays to ditto: Sides

9 1/4" x 8 7/8"

Back 9 1/4" x 9 1/4"

Top 9 1/4" x 8 7/8"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

201 lbs

Front plate at bottom: Material

S

Tensile strength

26-30 TNS

Thickness

1"

Lower back plate: Material

S

Tensile strength

26-30 TNS

Thickness

31/32"

Pitch of stays at wide water space

13 1/4" x 9 1/4"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

206 lbs

Main stays: Material

S

Tensile strength

28-32 TNS

Diameter

At body of stay,

3 3/8"

or

Over threads

No. of threads per inch

6

Area supported by each stay

434 8/16"

Working pressure by Rules

201.5 lbs

Screw stays: Material

S

Tensile strength

26-30 TNS

Diameter

At turned off part,

1 3/4"

or

Over threads

No. of threads per inch

9

Area supported by each stay

90 3/16"



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Lloyd's Register

W343-0008

Working pressure by Rules 201 lbs Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part. 2"
 No. of threads per inch 9 Area supported by each stay 122 7/16 sq" Working pressure by Rules 202 lbs
 Tubes: Material Iron External diameter { Plain 2 3/4" Thickness { 9/16" No. of threads per inch 9
 Stay 2 3/4" 3/8" below threads
 Pitch of tubes 3 7/8" Working pressure by Rules 208 lbs Manhole compensation: Size of opening in
 shell plate 16" x 12" Section of compensating ring 3' 9 1/8" x 2' 5 1/2" x 1 7/8" No. of rivets and diameter of rivet holes 28 @ 1 1/2"
 Outer row rivet pitch at ends 10 5/8" Depth of flange if manhole flanged ✓ Steam Dome: Material 208 lbs
 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 Manufacturers of { Tubes
 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 and
 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

The foregoing is a correct description,
 RANKIN & BLACKMORE LTD. Manufacturer.
 Director.

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These Boiler have been built under special Survey in accordance with the approved plans & the workmanship and material are of good quality. They are now securely fitted on board. This Report accompanies trial of the Machinery.

Survey Fee charged on :
 Travelling Expenses (if any) Made by kept
 When applied for. 192
 When received. 192

W. Gordon-Mitchell
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 19 NOV 1929

Assigned See accompanying machinery report.