

REPORT ON BOILERS.

No. 20522.

Date of writing Report 26.2.38

When handed in at Local Office 5th March 1938

Received at London Office MAR -9 1938

No. in Survey held at

Greenwich

Port of Greenwich

on the

S/S "Portsea"

Date, First Survey 9th June 1934

Last Survey 1st March 1938

(Number of Visits ✓)

Tons { Gross
Net

Master

Built at Burntisland

By whom built Burntisland & Co

Yard No. 218

When built 1938

Engines made at

Greenwich

By whom made

Rankin, Blackmore & Co

Engine No. 456

When made 1938

Boilers made at

ditto

By whom made

ditto

Boiler No. 456

When made 1938

Nominal Horse Power

Owners

Port belonging to

MULTITUBULAR BOILERS—MAIN,

Manufacturers of Steel

Colvile Scottish Iron & Steel Co

Total Heating Surface of Boilers

2400 ft^2

Is forced draught fitted

(Letter for Record S)

No. and Description of Boilers

2 Single Ended

Coal or Oil fired Coal

Tested by hydraulic pressure to

350

Date of test 1-2-38

No. of Certificate 2139

Working Pressure 200

Area of Firegrate in each Boiler

32.5 ft^2

No. and Description of safety valves to each boiler

2 Cochran's Improved High Lift

Area of each set of valves per boiler

per Rule 4.2 ft^2 as fitted 4.8 ft^2

Pressure to which they are adjusted

200 $\text{lb}/\text{sq. in.}$

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

9" PORT SIDE, 18" STARBOARD SIDE

Smallest distance between shell of boiler and tank top plating

18"

Largest internal dia. of boilers

11-6"

Length 11-0"

Is the bottom of the boiler insulated

Yes

Thickness

1 1/32"

Are the shell plates welded or flanged

Shell plates: Material S

Tensile strength 29.33

No. of seams

TRIDBS

Diameter of rivet holes in

circ. seams 13/16"

long. seams 1 1/16"

Description of riveting: circ. seams

end 3.7"

inter. 7 1/16"

Pitch of rivets

Percentage of strength of circ. end seams

plate 64.8

rivets 45.7

Percentage of strength of circ. intermediate seam

plate 85.7

rivets 85.7

Percentage of strength of longitudinal joint

plate 85.7

rivets 85.7

Working pressure of shell by Rules

203

Thickness of butt straps

outer 13/16"

inner 15/16"

No. and Description of Furnaces in each Boiler

2 Reiglelon

Tensile strength

26-30

Smallest outside diameter

3-4 1/8"

Thickness of plates

crown 9/16"

bottom 9/16"

Description of longitudinal joint

weld

Working pressure of furnace by Rules

203

Are stays secured

DNW

Tensile strength

26-30

Thickness

1 1/16"

Pitch of stays 16 3/4" x 15 1/4"

Working pressure by Rules

204

Pitch of stay tubes in nests

7.47"

Pitch across wide water spaces

14"

Working pressure

front 239

back 204

Boilers to combustion chamber tops: Material

S

Tensile strength

29.33

Depth and thickness of girder

Length as per Rule

34 9/16"

Distance apart

8 1/2"

No. and pitch of stays

Working pressure by Rules

204

Thickness: Sides

2 1/32"

Back 2 1/32"

Top 2 1/32"

Bottom 1 3/16"

Combustion chamber plates: Material

S

Are stays fitted with nuts or riveted over

Nuts

Front plate at bottom: Material

S

Tensile strength

26-30

Thickness

7/8"

Are stays fitted with nuts or riveted over

Nuts

Main stays: Material

S

Tensile strength

28-32

Area supported by each stay

26.5 ft^2

No. of threads per inch

6

Screw stays: Material

S

Tensile strength

26-30

Area supported by each stay

74-25 ft^2

No. of threads per inch

9

At body of stay, or Over threads

23/4"

Working pressure by Rules

202

At turned off part, or Over threads

15/8"

Working pressure by Rules

205

Working pressure by Rules

203

Working pressure by Rules

202

Working pressure by Rules

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Working pressure by Rules

205

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Working pressure by Rules **205** Are the stays drilled at the outer ends **No** Margin stays: Diameter **17/8"**
No. of threads per inch **9** Area supported by each stay **92** Working pressure by Rules **209**
Tubes: Material **Iron** External diameter **3"** Thickness **1/4"** No. of threads per inch **9**
Pitch of tubes **4 1/8" x 4 1/8"** Working pressure by Rules **234** Manhole compensation: Size of opening
shell plate **16 x 12"** Section of compensating ring **2 1/4" x 2 1/4" x 1/2"** No. of rivets and diameter of rivet holes **36 at 1 1/2"**
Outer row rivet pitch at ends **8** Depth of flange if manhole flanged
Tensile strength Thickness of shell Description of longitudinal joint
Diameter of rivet holes Pitch of rivets Percentage of strength of joint
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 **North Eastern Marine** Manufacturers of **Steel forgings**
for further particulars see Newcastle Cal. 806506 attached
Number of elements **Not fitted in boiler here** Internal diameter and thickness of tubes
Material of heads 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 Are drain cocks
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.
Managing 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.) **Yes**
Total No. of visits **1**

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.) **These boilers have been built under special survey in accordance with the approved plans & the workmanship & material are of good quality. They have now been shipped to Roumania for fitting on board. This Report accompanies that of the Machinery**

These boilers have been efficiently fitted on board, examined under steam and the safety valves adjusted to 200 lbs/sq. in.
J. H. Campbell

Survey Fee **charged on Machinery Report** When applied for, 19
Travelling Expenses (if any) £ When received, 19
W. Gordon-Mitchell
Engineer Surveyor to Lloyd's Register of Ships

Committee's Minute **GLASGOW 8-MAR 1938**
Assigned **SEE ACCOMPANYING MACHINERY REPORT.**
TUE. 26 APR 1938
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