

## REPORT ON BOILERS.

No. 62686

AUG 21 1940

Received at London Office

Date of writing Report

19

When handed in at Local Office

17-8-40

Port of

Glasgow

No. in Reg. Book.

Survey held at

Glasgow

Date, First Survey

(1939) May 30<sup>th</sup>

Last Survey

8<sup>th</sup> Aug. 1940

(Number of Visits 18)

Gross 5300

Tons

Net

85176 on the

Boiler No. E.W. 124 M/V. "TREVILLY"

Master

Built at

P.A. Glasgow

By whom built

Lithgow &amp; Co. Ltd.

Yard No. 928

When built 1940

Engines made at

Glasgow

By whom made

Barclay Currie

Engine No. E.W. 125

When made 1940

Boilers made at

Glasgow

By whom made

Barclay Currie

Boiler No. E.W. 124

When made 1940

Nominal Horse Power

449

Owners

Hain Steamship Co. Ltd.

Port belonging to

London

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Galloway &amp; Co.

(Letter for Record

S)

Total Heating Surface of Boilers

1183  $\phi$ 

Is forced draught fitted

No

Coal or Oil fired

oil fired &amp; exhaust Heat

No. and Description of Boilers

One - Exhaust Heat &amp; oil fired Boiler

Working Pressure

120 lbs

Tested by hydraulic pressure to

230 lb

Date of test

22-9-39

No. of Certificate

20452

Can each boiler be worked separately

✓

Area of Firegrate in each Boiler

5.47  $\phi$ 

No. and Description of safety valves to each boiler

1-2" I.H.L. Smith

Area of each set of valves per boiler

6.28  $\phi$ 

Pressure to which they are adjusted

120 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

24"

Is oil fuel carried in the double bottom under boilers

Yes

Smallest distance between shell of boiler and tank top plating

30"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

9'-9"

Length

10'-6"

Shell plates: Material

Steel

Tensile strength

29/33

Thickness

9/16"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end

D.R. Lap

long. seams

T.R.D. 13.5.

Diameter of rivet holes in

circ. seams

13/16"

Pitch of rivets

2.978"

Percentage of strength of circ. end seams

plate 72.71.  
rivets 49.05

Percentage of strength of circ. intermediate seam

plate

Percentage of strength of longitudinal joint

plate 85.0.  
rivets 98.05  
combined 89.61

Working pressure of shell by Rules

122 lbs

Thickness of butt straps

7/16"

No. and Description of Furnaces in each Boiler

1 - Reighton

Material

Steel

Tensile strength

26/30

Smallest outside diameter

3'-1 1/4"

Length of plain part

top

Thickness of plates

crown

3/8"

Description of longitudinal joint

welded

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

Working pressure of furnace by Rules

141 lbs

End plates in steam space: Material

Steel

Tensile strength

26/30

Thickness

25/32"

Pitch of stays

16" x 14"

How are stays secured

Double Nuts

Working pressure by Rules

123 lbs.

Tube plates: Material

Steel

Tensile strength

26/30

Thickness

1 1/16"

Mean pitch of stay tubes in nests

10 7/16"

Pitch across wide water spaces

13 3/8"

Working pressure

front 165 lbs

back 158 lbs

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32

Depth and thickness of girder

at centre

7 5/8" x 22 17/32"

Length as per Rule

2'-6 23/32"

Distance apart

9 1/2"

No. and pitch of stays

in each

22 10 1/2"

Working pressure by Rules

120 lbs.

Combustion chamber plates: Material

Steel

Tensile strength

26/30

Thickness: Sides

19/32"

Back

19/32"

Top

19/32"

Bottom

19/32"

Pitch of stays to ditto: Sides

10 1/2" x 9 1/2"

Back

10 1/2" x 9 1/2"

Top 10 1/2" x 9 1/2"

Are stays fitted with nuts or riveted over

Nuts

Working pressure by Rules

120 lbs.

Front plate at bottom: Material

Steel

Tensile strength

26/30

Thickness

25/32"

Lower back plate: Material

Steel

Tensile strength

26/30

Thickness

25/32"

Pitch of stays at wide water space

13 3/8"

Are stays fitted with nuts or riveted over

Nuts

Working Pressure

130 lbs.

Main stays: Material

Steel

Tensile strength

28/32

Diameter

At body of stay, 2 1/8"

No. of threads per inch

6

Area supported by each stay

2240"

Working pressure by Rules

135 lbs

Screw stays: Material

Steel

Tensile strength

26/30

Diameter

At turned off part, 1 1/2"

No. of threads per inch

9

Area supported by each stay

1000"

Tensile strength

26/30

Diameter

At turned off part, 1 1/2"

No. of threads per inch

9

Area supported by each stay

1000"

Tensile strength

26/30

Lloyd's Register

Foundation



Working pressure by Rules 126 lbs Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, or Over threads 1 5/8" No. of threads per inch 9 Area supported by each stay 1150" Working pressure by Rules 132 lbs Tubes: Material Steel External diameter { Plain 3" + 1 3/4" Thickness { 11 + 10 L.S.G. 3/16, 5/16 + 1/4" No. of threads per inch 9 Pitch of tubes 4 1/4" x 4 1/8" + 2 7/8" + 2 3/4" Working pressure by Rules 140 lbs Manhole compensation: Size of opening in shell plate 20" x 16" Section of compensating ring 19" x 9/16" No. of rivets and diameter of rivet holes 44 @ 7/8" Outer row rivet pitch at ends 5 1/2" Depth of flange if manhole flanged 4" Steam Dome: Material Nil 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 Nil Manufacturers of { Tubes Steel forgings 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 forgings and 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, For BARCLAY, CURLE & CO. LTD. Alexander Macdonald Manufacturer.

Dates of Survey { During progress of work in shops - - (1939) May 30, June 8, 13, July 3 Are the approved plans of boiler and superheater forwarded herewith Yes (If not state date of approval.) while building { During erection on board vessel - - - 12, 31, Aug 7, 14, 16, 25, Sept 8, 15, Total No. of visits 18 Oct. 10, Dec. 4, (1940) Jan. 8, Feby. 5, Mar. 1, Aug. 8.

Is this Boiler a duplicate of a previous case Yes. If so, state Vessel's name and Report No. TREVANION Sh. No. 59049

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This Boiler has been built under Survey Special in accordance with the Rules and approved plan Materials and workmanship are good This Boiler has been satisfactorily fitted on board and Safety Valves adjusted under steam to 120 lbs/sq. in.

Rob 17/8/40

Survey Fee ... £ 7 : 17 : 0 When applied for, 20 AUG 1940 Travelling Expenses (if any) £ : : When received, 30 - 9 - 1940

G. H. Macdonald Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 20 AUG 1940

Assigned SEE ACCOMPANYING MACHINERY REPORT.



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