

REPORT ON BOILERS.

No. 66732

Received at London Office

3 MAR 1943

Date of writing Report

19

When handed in at Local Office

1.3.43

Port of

Glasgow

No. in
Reg. Book.

Survey held at

Glasgow

Date, First Survey

24th Dec 1941

Last Survey

23rd Feb. 1943

(Number of Visits 2.6)

Gross
Tons
Net

on the

M/V.

"EMPIRE COURAGE"
NOW NAMED "PHILIPS WOUWERMAN"

Master

Built at

Glasgow

By whom built

Barclay Curle & Co.

Yard No.

689

When built

1943

Engines made at

Glasgow

By whom made

Barclay Curle & Co. Ltd.

Engine No.

690

When made

1943

Boilers made at

-do-

By whom made

-do-

Boiler No.

689

When made

1943

Nominal Horse Power

685

Owners

Ministry of War Transport

Port belonging to

Glasgow.

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Colvilles Ltd.

(Letter for Record

S

Total Heating Surface of Boilers

1684 sq ft

Is forced draught fitted

No

Coal or Oil fired

Oil

No. and Description of Boilers

One single-ended

Working Pressure

120 lb.

Tested by hydraulic pressure to

230 lb.

Date of test

26-5-42

No. of Certificate

21068

Can each boiler be worked separately

-

Area of Firegrate in each Boiler

-

No. and Description of safety valves to each boiler

2 1/2" I.H.L. double

Area of each set of valves per boiler

per Rule

7.8 sq ft

as fitted

9.8 sq ft

Pressure to which they are adjusted

120 lb.

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

kill clear

Is oil fuel carried in the double bottom under boilers

Yes

Smallest distance between shell of boiler and tank top plating

18"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

12'-9"

Length

11'-0"

Shell plates: Material

S

Tensile strength

29/33 tons

Thickness

23/32"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end double

long. seams

DBS TR

Diameter of rivet holes in

circ. seams

13/16"

long. seams

13/16"

Pitch of rivets

2.414"

5.75"

Percentage of strength of circ. end seams

plate

66.36

rivets

47.41

Percentage of strength of circ. intermediate seam

plate

85.86

rivets

Percentage of strength of longitudinal joint

plate

93.28

rivets

92.12

Working pressure of shell by Rules

Thickness of butt straps

outer

9/16"

inner

11/16"

No. and Description of Furnaces in each Boiler

3 Dighton

Material

S

Tensile strength

26/30 tons

Smallest outside diameter

37 1/4"

Length of plain part

top

bottom

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

End plates in steam space: Material

S

Tensile strength

26/30 tons

Thickness

15/16"

Pitch of stays

18" x 18 1/2"

How are stays secured

D.N.

Working pressure by Rules

Tube plates: Material

front

S

back

Tensile strength

26/30 tons

Thickness

23/32"

11/16"

Mean pitch of stay tubes in nests

10.5"

Pitch across wide water spaces

14"

Working pressure

front

back

Girders to combustion chamber tops: Material

S

Tensile strength

28/32 tons

Depth and thickness of girder

at centre

2 @ 8" x 19/32"

Length as per Rule

33 3/4"

Distance apart

9 1/2"

No. and pitch of stays

in each

2 @ 10 1/2"

Working pressure by Rules

Combustion chamber plates: Material

S

Tensile strength

26/30 tons

Thickness: Sides

19/32"

Back

9/16"

Top

19/32"

Bottom

19/32"

Pitch of stays to ditto: Sides

9 1/2" x 10 1/2"

Back

9 1/8" x 9 1/2"

Top

9 1/2" x 10 1/2"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

Front plate at bottom: Material

S

Tensile strength

26/30 tons

Thickness

23/32"

Lower back plate: Material

S

Tensile strength

26/30 tons

Thickness

21/32"

Pitch of stays at wide water space

14"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

Main stays: Material

S

Tensile strength

28/32 tons

Diameter

At body of stay,

2 1/2"

Over threads

No. of threads per inch

6

Area supported by each stay

Working pressure by Rules

Screw stays: Material

S

Tensile strength

26/30 tons

Diameter

At turned off part,

1 1/2"

Over threads

No. of threads per inch

9

Area supported by each stay

011877-011883-00065

Lloyd's Register
Foundation

Working pressure by Rules ☒ 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 Working pressure by Rules
Tubes: Material *steel* External diameter { Plain *3"* Stay *3"* Thickness { *10 WG* *1/4" + 5/16"* No. of threads per inch *9*

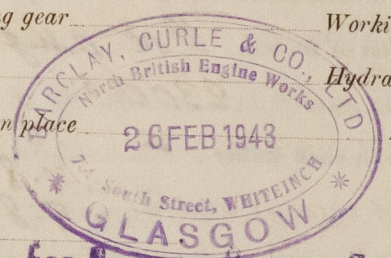
Pitch of tubes *4 1/8" x 4 1/4"* Working pressure by Rules Manhole compensation: Size of opening in shell plate *20" x 16"* Section of compensating ring *7 1/2" x 2 3/32"* No. of rivets and diameter of rivet holes *44 @ 1 5/16"*
Outer row rivet pitch at ends *6"* Depth of flange if manhole flanged *4"* 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 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 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 casing 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 *Yes*



For Barclay, Curle & Co., Ltd.
The foregoing is a correct description,
Alfred Macneil Chief Draughtsman
Manufacturer.

Dates of Survey { During progress of work in shops - - 1941 Dec 24, 29, 1942 Jan 7, Mar 27 Apr 10, 24, 29
while building { During erection on board vessel - - - Sep 23 Dec 25, 13, 19
Dec 3, 9, 1943 Jan 12 Feb 1, 10, 19, 23
Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
Total No. of visits *26*

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 special survey in accordance with the Rules and approved plans, and the materials and workmanship are good. It has been satisfactorily installed in the vessel and the safety valves have been adjusted to the working pressure. The specification requirements have been carried out satisfactorily.*

Sub 1/3/43

Survey Fee ... £ *11* : *4* : *0* When applied for, 19
SPEC^Y FEE *2* : *16* : *0* When received, 19
Travelling Expenses (if any) £ : :
Changed on March 4 Report

A. J. Brown
Engineer-Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 2 MAR 1943**
Assigned **SEE ACCOMPANYING MACHINERY REPORT**