

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.

1943

Port of

Glasgow

No. in Survey held at

Reg. Book.

Glasgow

Date, First Survey 24th Dec 1941

Last Survey 23rd Feb. 1943

(Number of Visits 26)

Gross
Tons
Net

on the M/V.

"EMPIRE COURAGE"
NOW NAMED "PHILIPS WOUWERMANN"

Master

Built at

Glasgow

By whom built

Stanley Clark & Co. Yard No. 689 When built 1943

Engine made at

Glasgow

By whom made

Stanley Clark & 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

1667 sq ft ✓

Is forced draught fitted

No ✓

Coal or Oil fired

Oil ✓

No. and Description of Boilers

One Oil fired & Exhaust Heat ✓

Working Pressure

120 lb. ✓

Tested by hydraulic pressure to

230 lb. ✓

Date of test

26-5-42 ✓

No. of Certificate

21069 ✓

Can each boiler be worked separately

- ✓

Area of Firegrate in each Boiler

- ✓

No. and Description of safety valves to each boiler

2 1/4" I.H.L. auto ✓

Area of each set of valves per boiler

{ per Rule 7.70" ✓
as fitted 7.940" }

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

hell 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

- ✓

Largest internal dia. of boilers

11'-0" ✓

Length

11'-0" ✓

Shell plates: Material

S ✓

Tensile strength

29/38 tons ✓

Thickness

21/32" ✓

Are the shell plates welded or flanged

No ✓

Description of riveting: circ. seams

{ end auto ✓
inter. - ✓

long. seams

DBS TR ✓

Diameter of rivet holes in

{ circ. seams 13/16" ✓
long. seams 13/16" ✓

Pitch of rivets

{ 2.816" ✓
4.375" ✓

Percentage of strength of circ. end seams

{ plate 71.3 ✓
rivets 44.48 ✓

Percentage of strength of circ. intermediate seam

{ plate 81.42 ✓
rivets 80.52 ✓

Percentage of strength of longitudinal joint

{ plate 81.42 ✓
rivets 80.52 ✓
combined 89.7 ✓

Working pressure of shell by Rules

Thickness of butt straps

{ outer 17/32" ✓
inner 21/32" ✓

No. and Description of Furnaces in each Boiler

One Daylight 19 ✓

Material

S ✓

Tensile strength

26/30 tons ✓

Smallest outside diameter

40 1/4" ✓

Length of plain part

{ top - ✓
bottom - ✓

Thickness of plates

{ crown 3/8" ✓
bottom - ✓

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

13/16" ✓

Pitch of stays 13 1/2" x 17" ✓

How are stays secured

DN ✓

Working pressure by Rules

Tube plates: Material

{ front S ✓
back S ✓

Tensile strength

26/30 tons ✓

Thickness

23/32" ✓
11/16" ✓

Mean pitch of stay tubes in nests

10 5/8" ✓

Pitch across wide water spaces

13 5/8" ✓

Working pressure

{ front - ✓
back - ✓

Girders to combustion chamber tops: Material

S ✓

Tensile strength

28/32 tons ✓

Depth and thickness of girder

at centre 20 8 1/4" x 9/16"

Length as per Rule

Distance apart

10" ✓

No. and pitch of stays

in each 20 10"

Working pressure by Rules

Combustion chamber plates: Material

S ✓

Tensile strength

26/30 tons ✓

Thickness: Sides

19/32" ✓

Back

19/32" ✓

Top

19/32" ✓

Bottom

19/32" ✓

Pitch of stays to ditto: Sides

10" x 10" ✓

Back

9 1/2" x 10 1/2" ✓

Top

10" x 10" ✓

Are stays fitted with nuts or riveted over

Auto ✓

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

11/16" ✓

Pitch of stays at wide water space

14 1/4" ✓

Are stays fitted with nuts or riveted over

Auto ✓

Working Pressure

Main stays: Material

S ✓

Tensile strength

28/32 tons ✓

Diameter

{ At body of stay, 2 1/8" ✓
or 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, - ✓
or Over threads 1 1/2" ✓

No. of threads per inch

9 ✓

Area supported by each stay

011877-011883-0066

Lloyd's Register
Foundation

PILLARS

Centre
Stiffen

Plating

STRINGER
Upper
Stringer

Thick

Thick

Thick

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Stringer

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Working pressure by Rules
No. of threads per inch 9
Tubes: Material S
Pitch of tubes 4 1/4" x 4 1/4"
shell plate 20" x 16"
Outer row rivet pitch at ends 5 1/4"
Tensile strength
Diameter of rivet holes
Internal diameter
stays
How connected to shell
of rivets in outer row in dome connection to shell

Are the stays drilled at the outer ends No
Area supported by each stay
External diameter { Plain 3" Ex. To 1 1/4" x 1 1/4"
Stay 3"
Working pressure by Rules
Section of compensating ring 7 1/2" x 2 1/32"
Depth of flange if manhole flanged 3 1/2"
Thickness of shell
Pitch of rivets
Working pressure by Rules
Inner radius of crown
Size of doubling plate under dome

Margin stays: Diameter { At turned off part 1 5/8"
or Over threads 1 5/8"
Working pressure by Rules
Thickness 1/4", 5/16", 3/8"
No. of threads per inch 9
Manhole compensation: Size of opening in
No. of rivets and diameter of rivet holes 44 @ 1"
Steam Dome: Material
Description of longitudinal joint
Percentage of strength of joint { Plate
Rivets
Thickness of crown
No. and diameter of
Working pressure by Rules
Diameter of rivet holes and pitch

Type of Superheater
Number of elements
Material of headers
Material of tubes
Tensile strength
the boiler be worked separately
Area of each safety valve
Rules
tubes
valves fitted to free the superheater from water where necessary

Manufacturers of { Tubes
Steel forgings
Steel castings
Internal diameter and thickness of tubes
Thickness
Can the superheater be shut off and
Is a safety valve fitted to every part of the superheater which can be shut off from the boiler
Are the safety valves fitted with easing gear
Pressure to which the safety valves are adjusted
forgings and castings
and after assembly in place
Working pressure as per
Hydraulic test pressure:
Are drain cocks or

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,
Alexander Macneil, Chief Draughtsman, Manufacturer.

Dates of Survey while building	During progress of work in shops - -	1941 Dec 24-29 1942 Jan 7-Mar 27 Apr 10-24 29	1942 May 6-15 Jun 4-5 29 Aug 7 Sep 23	Oct 2-5 13 19	Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
	During erection on board vessel - - -	Dec 3-9 1943 Jan 12 Feb 1-10 19 23			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.

786
1/3/43

Survey Fee	£ 11 : 8 :	When applied for,	19
Travelling Expenses (if any)	£ 2 : 15 :	When received,	19

Checked on Macneil's Report.

Engineer Surveyor to Lloyd's Register of Shipping.

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