

REPORT ON BOILERS.

No. 66280.

Received at London Office

12 NOV 1942

Date of writing Report

10

When handed in at Local Office

9.11.10

Port of GLASGOW

No. in Survey held at

GLASGOW

Date, First Survey

24.4.42

Last Survey

30.10.1942

on the

M/V. "EMPIRE HIGHWAY"

(Number of Visits)

Tons

Gross 7166
Net 4217

ster

Built at GLASGOW

By whom built BARCLAY CURLEY & CO.

Yard No. 690

When built 1942

gines made at

GLASGOW

By whom made BARCLAY CURLEY & CO. LD.

Engine No. 689

When made 1942

ilers made at

-DO-

By whom made

-DO-

Boiler No. 690

When made 1942

imal Horse Power

685 687

Owners MINISTRY OF WAR TRANSPORT

Port belonging to

GLASGOW

ULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

COLVILLES, LD.

(Letter for Record

S ✓)

total Heating Surface of Boilers

2157 sq ft

Is forced draught fitted

No

Coal or Oil fired

Oil ✓

and Description of Boilers

One single-ended

Working Pressure

180 lb.

tested by hydraulic pressure to

320 lb.

Date of test

8.7.42

No. of Certificate

21119

Can each boiler be worked separately

ea of Firegrate in each Boiler

No. and Description of safety valves to each boiler 1-2 1/2" H.L. dmt

ea of each set of valves per boiler

per Rule 6.90"

as fitted 9.80"

Pressure to which they are adjusted

180 lb.

Are they fitted with easing gear

Yes ✓

case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

Distance between boilers or uptakes and bunkers or woodwork

6'-9"

Is oil fuel carried in the double bottom under boilers

Yes ✓

Distance between shell of boiler and tank top plating

18"

Is the bottom of the boiler insulated

Yes ✓

largest internal dia. of boilers

14'-6"

Length

11'-0"

Shell plates: Material

S ✓

Tensile strength

29/32 tons

Thickness

1 5/32"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end dmt

g. seams

DBS. TR

Diameter of rivet holes in

circ. seams 1 1/4"

long. seams 1 1/4"

Pitch of rivets

3.66"

8 1/2"

Percentage of strength of circ. end seams

plate 85.2

rivets 92.6

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 85.2

rivets 92.6

Working pressure of shell by Rules

Thickness of butt straps

outer 7/8"

inner 1"

No. and Description of Furnaces in each Boiler

3 Dighton

Material

S

Tensile strength

26/30 tons

Smallest outside diameter

3'-8 1/4"

Length of plain part

top

bottom

Thickness of plates

crown 9/16"

bottom 9/16"

Description of longitudinal joint

Welded

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

Working pressure of furnace by Rules

plates in steam space: Material

S

Tensile strength

26/30 tons

Thickness

1 7/32"

Pitch of stays 19" x 20"

How are stays secured

D.H.

Working pressure by Rules

plates: Material

front S

back

Tensile strength

26/30 tons

Thickness

27/32"

23/32"

pitch of stay tubes in nests

9.75"

Pitch across wide water spaces

14"

Working pressure

front

back

adders to combustion chamber tops: Material

S

Tensile strength

28/32 tons

Depth and thickness of girder

Centre

2 @ 9 3/4" x 1 1/8"

Length as per Rule

2'-9 7/8"

Distance apart

10"

No. and pitch of stays

each

3 @ 8"

Working pressure by Rules

Combustion chamber plates: Material

S

ile strength

26/30 tons

Thickness: Sides

2 1/32"

Back

2 1/32"

Top

2 1/32"

Bottom

2 1/32"

h of stays to ditto: Sides

8" x 10"

Back

8 1/2" x 9 1/2"

Top

8" x 10"

Are stays fitted with nuts or riveted over

Nuts

Working pressure by Rules

Front plate at bottom: Material

S

Tensile strength

26/30 tons

ckness

27/32"

Lower back plate: Material

S

Tensile strength

26/30 tons

Thickness

25/32"

h 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

meter

At body of stay,

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

meter

At turned off part,

or

Over threads

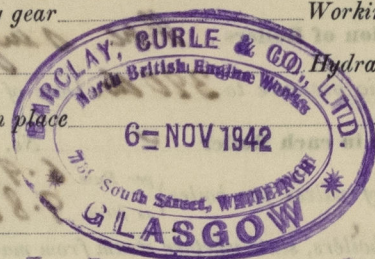
No. of threads per inch

9

Area supported by each stay

Working pressure by Rules Are the stays drilled at the outer ends Margin stays: Diameter { At turned off part, or Over threads 1 3/4" ✓
No. of threads per inch Area supported by each stay Working pressure by Rules
Tubes: Material S External diameter { Plain 3" ✓ Thickness { 9/16" ✓ No. of threads per inch 9 ✓
Pitch of tubes 4'8" x 4'4" Working pressure by Rules Manhole compensation: Size of opening
shell plate 16'2" x 20'2" Section of compensating ring 10 3/4" x 1 5/8" No. of rivets and diameter of rivet holes 40 @ 1'4" ✓
Outer row rivet pitch at ends 8'2" Depth of flange if manhole flanged 3 3/4" ✓ 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
How connected to shell Inner radius of crown Working pressure by Rules
Size of doubling plate under dome Diameter of rivet holes and 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 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 a
Rules Pressure to which the safety valves are adjusted and after assembly in place
tubes forgings and castings
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



The foregoing is a correct description,
Alfred Macnutt Chief Draughtsman

Dates of Survey { During progress of work in shops - - } See accompanying Are the approved plans of boiler and superheater forwarded herewith Yes ✓
while building { During erection on board vessel - - } Survey Report (If not state date of approval.)
Total No. of visits 16

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 efficiently installed in the vessel and the safety valves have been adjusted to the working pressure. The Specⁿ requirements have been carried out satisfactorily.

936
10/11/42

Survey Fee ... £ 14 : 8 : - When applied for, 10 NOV 1942
Travelling Expenses (if any) £ 8 : 12 : - When received, 10
SPEC. FEE £ 2 : 8 : -

Committee's Minute GLASGOW 10 NOV 1942

Assigned SEE ACCOMPANYING MACHINERY REPORT.

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