

REPORT ON BOILERS.

No. 63970

Received at London Office

25 JUN 1941

to of writing Report

When handed in at Local Office

23.6.1941

Port of GLASGOW

No. in Survey held at

GLASGOW

Date, First Survey

18.7.40

Last Survey 11th June 1941

on the S/S

"EMPIRE MOAT"

(Number of Visits

40

Tons

Gross

2922

Net

1640

built at GLASGOW

By whom built

LITHGOWS LD.

Yard No. 951

When built 1941

engines made at

GLASGOW

By whom made

DAVID ROWAN & CO. LD.

Engine No. 1076

When made 1941

boilers made at

-DO-

By whom made

-DO-

Boiler No. 1076

When made 1941

nominal Horse Power 240

Owners

MINISTRY OF WAR TRANSPORT

Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel COLVILLES LD.

(Letter for Record S

Total Heating Surface of Boilers

3434 sq ft

Is forced draught fitted

Yes

Coal or Oil fired

coal

No. and Description of Boilers

2 Single-ended

Working Pressure 200 lb.

tested by hydraulic pressure to

350 lb.

Date of test

7-4-41

No. of Certificate

20740

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

50.5 sq ft

No. and Description of safety valves to each boiler

1-2 3/4" draft

Area of each set of valves per boiler

per Rule

9.90 sq ft

as fitted

11.86 sq ft

Pressure to which they are adjusted

200 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

5'-10"

Is oil/fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

3'-10"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

13'-3"

Length

11'-6"

Shell plates: Material

Steel

Tensile strength

29/33 tons

Thickness

1 5/32"

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

1 3/16"

Pitch of rivets

3.2"

Percentage of strength of circ. end seams

plate 68.9

rivets 47.7

Percentage of strength of circ. intermediate seam

plate

Percentage of strength of longitudinal joint

plate 85.4

rivets 86.7

combined 88.3

Thickness of butt straps

outer 7/8"

inner 1"

No. and Description of Furnaces in each Boiler

3 Dighton

Material

Steel

Tensile strength

26/30 tons

Smallest outside diameter

3'-2 1/16"

Length of plain part

top

bottom

Thickness of plates

crown

1 7/32"

Description of longitudinal joint

welded

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

End plates in steam space: Material

Steel

Tensile strength

26/30 tons

Thickness

1 1/16"

Pitch of stays 15" x 18"

How are stays secured

DN

Tube plates: Material

front Steel

back

Tensile strength

26/30 tons

Thickness

29/32"

3/4"

Mean pitch of stay tubes in nests

9.62"

Pitch across wide water spaces

14"

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32 tons

Depth and thickness of girder

at centre

2 @ 8 1/4" x 7/8"

Length as per Rule

2'-9 1/32"

Distance apart

8"

No. and pitch of stays

in each

3 @ 8 1/4"

Combustion chamber plates: Material

Steel

Tensile strength

26/30 tons

Thickness: Sides

1 1/16"

Back

2 1/32"

Top

1 1/16"

Bottom

1 1/16"

Pitch of stays to ditto: Sides

8 1/4" x 9"

Back

8" x 9 1/4"

Top

8" x 8 1/4"

Are stays fitted with nuts or riveted over

Nuts

Front plate at bottom: Material

Steel

Tensile strength

26/30 tons

Thickness

29/32"

Lower back plate: Material

Steel

Tensile strength

26/30 tons

Thickness

25/32"

Pitch of stays at wide water space

13 1/2"

Are stays fitted with nuts or riveted over

Nuts

Main stays: Material

Steel

Tensile strength

28/32 tons

Diameter

At body of stay, or Over threads

2 1/2"

No. of threads per inch

6

Screw stays: Material

Steel

Tensile strength

26/30 tons

Diameter

At turned off part, or Over threads

1 5/8"

No. of threads per inch

9



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W30-0086

Are the stays drilled at the outer ends *no*

Margin stays: Diameter { At turned off part, or Over threads *1 3/4"*

No. of threads per inch *9*

Tubes: Material *steel* External diameter { Plain *3"* Stay *3"*

Thickness { *8W9* *1/4", 5/16", 3/8"* No. of threads per inch *9*

Pitch of tubes *4' 1/8" x 4' 1/4"*

Manhole compensation: Size of opening

shell plate - Section of compensating ring -

No. of rivets and diameter of rivet holes -

Outer row rivet pitch at ends -

Depth of flange if manhole flanged *4"*

Steam Dome: Material *none*

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

Thickness of crown

No. and diameter

stays

Inner radius of crown

How connected to shell

Size of doubling plate under dome

Diameter of rivet holes and

of rivets in outer row in dome connection to shell

Type of Superheater *none*

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

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 *Yes*

The foregoing is a correct description,
For David Rowan & Co. Ltd.
Arch: R. Grierson

Dates of Survey { During progress of work in shops - -
while building { During erection on board vessel - - -

SEE ACCOMPANYING MACHINERY REPORT.

Are the approved plans of boiler and superheater forwarded herewith *Yes*
(If not state date of approval.)
Total No. of visits

Is this Boiler a duplicate of a previous case *Yes*

If so, state Vessel's name and Report No. *"EMPIRE NESS" GLS. R. 6*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *These boilers have been built under special survey in accordance with the Rules & approved plans, and the materials and workmanship are good. They have satisfactorily installed in the vessel and the safety valves have been adjusted to the working pressure.*

Survey Fee £

When applied for, 19

Travelling Expenses (if any) *see receipt: 1/2 pt.* £

When received, 19

Committee's Minute GLASGOW 24 JUN 1947

Assigned SEE ACCOMPANYING MACHINERY REPORT.

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