

## REPORT ON BOILERS.

No. 65646

Received at London Office

17 JUN 1942

Date of writing Report

10

When handed in at Local Office

16.6.42

Port of

Glasgow

No. in Reg. Book. Survey held at

Glasgow

Date, First Survey

18th July

Last Survey

14th May 1942

on the

S/S "EMPIRE GALAHAD"

(Number of Visits 7)

Gross Tons  
Net

Master

Built at

Port Glasgow

By whom built

Messrs Lithgows Ltd

Yard No.

970

When built

1942

Engines made at

Greenock

By whom made

Messrs John G. Kincaid &amp; Co Ltd

Engine No.

733

When made

1942

Boilers made at

Glasgow

By whom made

Messrs David Rowan &amp; Co Ltd

Boiler No.

8467

When made

1942

Nominal Horse Power

Owners

Port belonging to

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Colvilles Ltd

(Letter for Record

S

Total Heating Surface of Boilers

2416 sq ft

Is forced draught fitted

Yes

Coal or Oil fired

Coal

No. and Description of Boilers

One single ended

Working Pressure

220 lbf/sq in

Tested by hydraulic pressure to 380 lbf/sq in

Date of test

15-4-42

No. of Certificate

21032

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

55 sq ft

No. and Description of safety valves to each boiler

one - 3" double spring loaded

Area of each set of valves per boiler

per Rule 12.85 sq in

as fitted 14.12 sq in

Pressure to which they are adjusted

Are they fitted with easing gear

Yes

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

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

Is oil fuel carried in the double bottom under boilers

Yes

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

15'-0 1/8"

Length

11'-6"

Shell plates: Material

S

Tensile strength

29/33 Tons/sq in

Thickness

1 7/16"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end

DR. Lap

long. seams

T.R.O.B.S.

Diameter of rivet holes in

circ. seams

1 1/2"

Pitch of rivets

10 1/4"

Percentage of strength of circ. end seams

plate

BE = 63.68; FE = 60.0

rivets

BE = 47.2; FE = 47.8

Percentage of strength of circ. intermediate seam

plate

BE = 4.13; FE = 3.435

rivets

Percentage of strength of longitudinal joint

plate

85.36

rivets

89.0

Working pressure of shell by Rules

Yes

Thickness of butt straps

outer

1 3/32"

inner

1 7/32"

No. and Description of Furnaces in each Boiler

3 Deighton Section

Material

S

Tensile strength

26/30 Tons/sq in

Smallest outside diameter

3'-9 3/8"

Length of plain part

top

Yes

Thickness of plates

crown

1 1/16"

Description of longitudinal joint

Welded

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

Yes

Working pressure of furnace by Rules

Yes

End plates in steam space: Material

S

Tensile strength

26/30 Tons/sq in

Thickness

1 3/8"

Pitch of stays

22" x 19"

How are stays secured

Double nuts

Working pressure by Rules

15"

Tube plates: Material

front

S

back

Tensile strength

26/30 Tons/sq in

Thickness

25/32"

Mean pitch of stay tubes in nests

9.7"

Pitch across wide water spaces

14"

Working pressure

front

back

Girders to combustion chamber tops: Material

S

Tensile strength

28/32 Tons/sq in

Depth and thickness of girder

at centre

2 @ 8 3/4" x 7/8"

Length as per Rule

2' 9 1/2"

Distance apart

8"

No. and pitch of stays

in each

3 @ 8 1/4"

Working pressure by Rules

Combustion chamber plates: Material

S

Tensile strength

26/30 Tons/sq in

Thickness: Sides

21/32"

Back

23/32"

Top

21/32"

Bottom

13/16"

Pitch of stays to ditto: Sides

8 1/4" x 8"

Back

10" x 8"

Top

8" x 8 1/4"; 7 1/4" x 8 1/4"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

Yes

Front plate at bottom: Material

S

Tensile strength

26/30 Tons/sq in

Thickness

15/16"

Lower back plate: Material

S

Tensile strength

26/30 Tons/sq in

Thickness

13/16"

Pitch of stays at wide water space

13 7/16"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

Yes

Main stays: Material

S

Tensile strength

28/32 Tons/sq in

Diameter

At body of stay,

or

Over threads

4 @ 3 1/4"; 6 @ 3"

No. of threads per inch

6

Area supported by each stay

Working pressure by Rules

Yes

Screw stays: Material

S

Tensile strength

26/30 Tons/sq in

Diameter

At turned off part,

or

Over threads

1 5/8" &amp; 1 3/4"

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, ☒ Over threads ☒ 1 7/8", 2" & 2 1/4" at back top corner

No. of threads per inch 9 Area supported by each stay ☒ Working pressure by Rules ☒

Tubes: Material S External diameter { Plain 3" Stay 3" Thickness { 1/4", 5/16", 3/8" No. of threads per inch 9

Pitch of tubes 4 3/16" x 4 1/8" Working pressure by Rules ☒ Manhole compensation: Size of opening in shell plate 16" x 12" Section of compensating ring ☒ No. of rivets and diameter of rivet holes ☒

Outer row rivet pitch at ends ☒ Depth of flange if manhole flanged ☒ 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 Internal diameter and thickness of tubes 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 David Rowan & Co. Ltd. Manufacturer.  
Arch. H. Grierson

Dates of Survey { During progress of work in shops - - - 1942 Feb. 18 Mar. 2-16-31 Apr. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)  
while building { During erection on board vessel - - - 16 May 11-14 Total No. of visits 7

Is this Boiler a duplicate of a previous case ☒ 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 and in accordance with the Rules. The materials and workmanship are good. On completion it has been tested by hydraulic pressure with satisfactory results.

It has been despatched to Port Glasgow for installing on board ship.

This boiler was one of those originally intended for Rowan's Contract No 1095, under which all the material was ordered and delivered. As the remaining boilers have not yet been completed, the invoices are being withheld meantime.

The requirements of the M.O.S. Specification have been satisfactorily carried out.

Survey Fee ... £ 16 : 2 : 0 When applied for, 16 JUN 1942  
Travelling Expenses (if any) £ 4 : : : When received, 19

A. P. Gibbeson

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 16 JUN 1942

Assigned Deputed for completion

GLASGOW

4 AUG 1942



Lloyd's Register Foundation