

AUG 1944

D.O.

REPORT ON BOILERS.

No. 68720

Received at London Office.

10-7-44 When handed in at Local Office. 1. 8. 44 Port of GLASGOW.

No. in Survey held at CLYDEBANK Date, First Survey 26. 8. 41 Last Survey 26. 6. 44

g. Book. (Number of Visits 89) Gross 4200.94

on the EMPIRE BALFOUR Tons Net 4946.38

Master. Built at PORT GLASGOW. By whom built LITHGOWS LTD. Yard No. 998 When built 1944

Diameter Engines made at GREENOCK By whom made Rankin & Blackmore Engine No. When made 1944

Boilers made at CLYDEBANK By whom made JOHN BROWN & CO. LTD. Boiler No. A65 When made 1944

s and pils Owners. Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Colvilles Ltd. (Letter for Record S)

Total Heating Surface of Boilers 5920 sq.ft. Is forced draught fitted Yes Coal or Oil fired Coal

No. and Description of Boilers 2 Multitubular Working Pressure 220

Tested by hydraulic pressure to 380 Date of test 31-5-44 No. of Certificate 21744

Area of Firegrate in each Boiler 66.6 sq. No. and Description of safety valves to each boiler 2 - 3" S.L.

Area of each set of valves per boiler per Rule 15.74 sq.in. Pressure to which they are adjusted 220 lbs. MC.

as fitted 16.58 sq.in. 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 4'-0" MC. Is oil fuel carried in the double bottom under boilers No MC.

Smallest distance between shell of boiler and tank top plating 2'-3" MC. Is the bottom of the boiler insulated Yes MC.

Largest internal dia. of boilers 16' - 1 29/64" Length 12' - 0 15/16" Shell plates: Material S Tensile strength 29 - 33 tons

Thickness 1 35/64" Are the shell plates welded or flanged No Description of riveting: circ. seams end D.R.

ing. seams T.R.D.B.S. Diameter of rivet holes in circ. seams 1 9/16" F 1 1/8" Pitch of rivets 34.196" F 3.4"

Percentage of strength of circ. end seams plate F 60 B 62.7 rivets " 44.7 B 47

Percentage of strength of longitudinal joint plate 85.5 rivets 85.26 Working pressure of shell by Rules

combined 88.13

Thickness of butt straps outer 1 11/64" No. and Description of Furnaces in each Boiler 4 - Deighton

inner 1 19/64" Material S Tensile strength 26-30 tons Smallest outside diameter 31 - 32"

Length of plain part top Thickness of plates crown 5/8" Description of longitudinal joint weld

bottom 5/8"

Dimensions of stiffening rings on furnace or c.c. bottom None Working pressure of furnace by Rules

and plates in steam space: Material S Tensile strength 26-30 tons Thickness 1 13/32" Pitch of stays 20" x 23 1/2"

Are stays secured D.N. Working pressure by Rules

Tube plates: Material front S Tensile strength 26 - 30 tons Thickness 15/16"

back S Tensile strength " " " Thickness 25/32"

Pitch of stay tubes in nests 10" Pitch across wide water spaces 14" Working pressure front

back

Orders to combustion chamber tops: Material S Tensile strength 26-32 tons Depth and thickness of girder

centre 10" x 1 1/4" Length as per Rule 36.6" Distance apart 9 5/8" No. and pitch of stays

each 3 - 8 1/2" Working pressure by Rules

Combustion chamber plates: Material Steel

Tensile strength 26 - 30 tons Thickness: Sides 25/32" Back 21/32" Top 25/32" Bottom 25/32"

Pitch of stays to ditto: Sides 8 1/2" x 9 5/8" Back 8 1/2" x 8 Top 9 5/8" x 8 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 15/16" Lower back plate: Material S Tensile strength 26 - 30 tons Thickness 53/64"

Pitch of stays at wide water space 13 1/2" Are stays fitted with nuts or riveted over Nuts

Working pressure

Main stays: Material S Tensile strength 28 - 32 tons

At body of stay 3 1/2" x 3 1/2" No. of threads per inch 6 Area supported by each stay

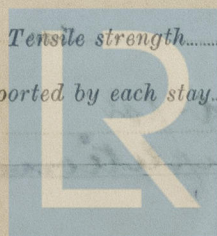
Over threads

Working pressure by Rules

Screw stays: Material S Tensile strength 26 - 30 tons

At turned off part 1 5/8", 1 1/2", 1 1/8", 2 1/4" No. of threads per inch 9 Area supported by each stay

Over threads

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004906-004917-0147

Working pressure by Rules. - Are the stays drilled at the outer ends. No Margin stays: Diameter { At turned off part, 1 1/2" or Over threads, 1 1/2" 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 { 8 W.C. 1/2", 5/16", 3/8", 7/16" No. of threads per inch. 9 Pitch of tubes. 4 1/8" x 4 3/16" Working pressure by Rules. - Manhole compensation: Size of opening in end 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. 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. Smoke tube

Manufacturers of

The Superheater Co. Ltd. Manchester.

Tubes.

Steel forgings.

Steel castings.

Number of elements. 120

Material of tubes. Solid drawn steel

Internal diameter and thickness of tubes. 17 m/m x 2 1/2 m/m

Material of headers. Cast Steel

Tensile strength.

Thickness.

Can the superheater be shut off and

the boiler be worked separately. Yes

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.

440 lbs/sq.in.

Are drain cocks or

valves fitted to free the superheater from water where necessary.

Yes

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building

During progress of work in shops - - - During erection on board vessel - - -

1942 Aug 16 Sep 4 10 21 Oct 5 7 15 23 Nov 12 16 Dec 2 4 28 1943 Jan 7 25 Feb 10 15 Mar 28 31 Apr 14 21 May 5 12 14 21 Aug 17 20 22 30 Sep 2 20 22 Oct 19 27 Nov 1 5 12 22 26 29 Dec 15 1944 Jan 12 16 31 Feb 2 4 9 14 18 Mar 1 3 8 13 15 24 27 30 Apr 3 5 14 17 21 24 26 May 2 4 5 10 12 15 18 19 23 26 31 Jun 5 8 12 14 16 19 21 23 26 Total No. of visits. 89

Is this Boiler a duplicate of a previous case. Yes

If so, state Vessel's name and Report No.

See Glasgow Rpt. No. 68149

GENERAL REMARKS

(State quality of workmanship, opinions as to class, &c.)

These boilers have been built under

special survey in accordance with the Society's Rules and approved plans.

The materials and workmanship are good.

The requirements of the Ministry of Shipping Specification have been carried out satisfactorily.

The boilers have now been despatched to Greenock for installing in the vessel.

Survey Fee

Spec.

£ 32 : 5 : -

When applied for, 8 AUG 1944

Travelling Expenses (if any) £

8 : 1 : -

When received, 19

W. Russell

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW

8 AUG 1944

Assigned

Superceded for Completion



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