

REPORT ON BOILERS.

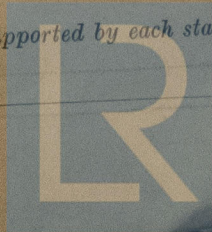
No. 70041

Received at London Office.

Date of writing Report 23/10/45 When handed in at Local Office 23/10/45 Port of GLASGOW
 No. in Survey held at GLASGOW Date, First Survey 7/11/44 Last Survey 9: 10: 1945
 (Number of Visits 21) Tons Gross 890 Net 370
 on the S.S. "EMPIRE FITZROY"
 Built at GLASGOW By whom built A & J. INGLIS LTD. Yard No. 1301 When built 1945
 Engines made at GLASGOW By whom made BRITISH POLAR ENGINES LTD. Engine No. 497 When made 1945
 Boilers made at CARFIN By whom made ALEX. ANDERSON & SONS LTD. Boiler No. 3871 When made 1945
3872
 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 1038 sq.ft. Is forced draught fitted Coal or Oil fired Oil
 No. and Description of Boilers 2 - Marine Return tube Working Pressure 180 lbs/sq. in.
 Tested by hydraulic pressure to 320 lbs Date of test 30:4:45 19:5:45 No. of Certificate 21925 & 21936 Can each boiler be worked separately Yes
 Area of Firegrate in each Boiler No. and Description of safety valves to each boiler 1 - 2" Double Spring
 Area of each set of valves per boiler 3.33 sq.in. Pressure to which they are adjusted 180lbs. Are they fitted with easing gear Yes
6.28 sq.in.
 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 20 inches Is oil fuel carried in the double bottom under boilers No
 Smallest distance between shell of boiler and tank top plating 12 inches Is the bottom of the boiler insulated Yes
 Largest internal dia. of boilers 8'0" Length 8'0" Shell plates: Material Steel Tensile strength 29-33 tons
 Thickness 23/32 Are the shell plates welded or flanged No Description of riveting: circ. seams DR
 long. seams D.R. D.B.S. Diameter of rivet holes in 15/16" Pitch of rivets 2 1/2"
15/16" 4.699"
 Percentage of strength of circ. end seams 67.6 Percentage of strength of circ. intermediate seam
54.9
 Percentage of strength of longitudinal joint 80 Working pressure of shell by Rules
94.5
 Thickness of butt straps 5" No. and Description of Furnaces in each Boiler 1 Morison
3" Tensile strength 26-30 tons Smallest outside diameter 3-5 1/4"
 Material Steel Thickness of plates 17/32" Description of longitudinal joint Welded
 Length of plain part Working pressure of furnace by Rules
 Dimensions of stiffening rings on furnace or c.c. bottom
 End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 13/16" Pitch of stays 13" & 14"
 How are stays secured Double Nuts and rivetted doubler Working pressure by Rules
 Tube plates: Material Steel Tensile strength 26-30 tons Thickness 3/4"
 Mean pitch of stay tubes in nests 10" Pitch across wide water spaces 10 1/2" Working pressure
 Girders to combustion chamber tops: Material Steel Tensile strength 28-32 tons Depth and thickness of girder
 at centre 2 @ 5" x 6" Length as per Rule 20 11/16" Distance apart 7" & 8" No. and pitch of stays
 in each 2 @ 7" Working pressure by Rules Combustion chamber plates: Material Steel
 Tensile strength 26-30 tons Thickness: Sides 9/16" Back 9/16" Top 9/16" Bottom 9/16"
 Pitch of stays to ditto: Sides 8" x 7" Back 8" x 7" Top 8" x 7" Are stays fitted with nuts or riveted over Yes
 Working pressure by Rules Front plate at bottom: Material Steel Tensile strength 26-30 tons Thickness 13/16"
 Thickness 13/16" Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 13/16"
 Pitch of stays at wide water space Are stays fitted with nuts or riveted over
 Working pressure Main stays: Material Steel Tensile strength 28-32 tons
 Diameter 1 1/2" No. of threads per inch 6 Area supported by each stay
 Working pressure by Rules Screw stays: Material Steel Tensile strength 26-30 tons
 Diameter 1 1/8" No. of threads per inch 9 Area supported by each stay



Lloyd's Register
 Foundation

Working pressure by Rules..... Are the stays drilled at the outer ends. No Top Margin stays: Diameter { At turned off part..... 1 5/8" or Over threads.....
No. of threads per inch 9 Area supported by each stay..... Working pressure by Rules.....
Tubes: Material Iron welded External diameter { Plain..... 2 1/2" Stay..... 2 1/2" Thickness { 9 W.G. 5/16" & 3/8" No. of threads per inch 9
Pitch of tubes 3 5/8" Working pressure by Rules..... Manhole compensation: Size of opening.....
shell plate 15 1/2" x 19 1/2" Section of compensating ring (6 1/2" x 7/8") 2 No. of rivets and diameter of rivet holes 46 - 15/16"
Outer row rivet pitch at ends 4.6" Depth of flange if manhole flanged 3" 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..... Working pressure by Rules..... Thickness of crown..... No. and diameter of stays.....
How connected to shell..... Inner radius of crown..... Working pressure by Rules..... 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.....
Number of elements..... Material of tubes..... Internal diameter and thickness of tubes.....
Material of headers..... Tensile strength..... Thickness..... Can the superheater be shut off from the boiler.....
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 Rules.....
Pressure to which the safety valves are adjusted..... Hydraulic test pressure.....
tubes..... forgings and castings..... and after assembly in place..... Are drain cocks 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 of the boiler and superheater as shown on the plans and drawings submitted herewith.

ALEX. ANDERSON & SONS, LTD.
Per Pro S. W. G. Fleming

Dates of Survey { During progress of work in shops - { 1944 Nov 7, 1945 Jan 4, 24 Feb 19, Mar 1, 22, 24, 25, 26, 27, 28, 29, 30, Apr 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, May 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, Jun 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, Jul 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, Aug 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, Sep 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, Oct 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, Nov 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, Dec 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 1945
while building { During erection on board vessel - { Jul 11, 31, Aug 20, 30, Sep 13, 28, Oct 1, 8, 9, 10
Are the approved plans of boiler and superheater forwarded herewith No (If not state date of approval.) 5-8-44
Total No. of visits 31

Is this Boiler a duplicate of a previous case. Yes If so, state Vessel's name and Report No. EMPIRE BELGRAVE GLS. RPT. 69670

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been constructed

under Special Survey in accordance with the Society's Rules and approved plans and the specifications

The material and workmanship are good.

The boilers have been securely fitted on board Messrs. A. & J. Inglis, No. 13 01 and tried under

steam and found satisfactory. Safety valves adjusted to 180 lb. per square inch.

Survey Fee £ 6 : 18 : 0 } When applied for, 2.3 OCT 1945
SPECIFICATION £ 1 : 14 : 0 }
Travelling Expenses (if any) £ : : : } When received.....19.....

M. Dale

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 23 OCT 1945

Assigned SEE ACCOMPANYING MACHINERY REPORT



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Foundation