

REPORT ON BOILERS.

No. 70705

Received at London Office JUN 1946

When handed in at Local Office 36 46 Port of GLASGOW.

Survey held at GLASGOW. Date, First Survey 4. 4. 45 Last Survey 7. 5. 1946

Reg. Book. S.S. "EMPIRE TEDMUIR". (Number of Visits 13) Gross 890 Tons Net 370

Master Built at GLASGOW. By whom built A. & J. INGLIS LTD. Yard No. 1312 When built 1946

Engines made at GLASGOW. By whom made BRITISH POLAR ENGINES LTD. Engine No. 591 When made 1946 3931

Boilers made at GAREIN. By whom made ALEX. ANDERSON & SONS LTD. Boiler No. 3932 When made 1945

Nominal Horse Power 125 Owners MINISTRY OF TRANSPORT. Port belonging to GLASGOW.

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Colvilles, Ltd., (Letter for Record 18)

Total Heating Surface of Boilers 1,038 sq. ft. Is forced draught fitted No Coal or Oil fired Oil

No. and Description of Boilers 2 - Marine Return Tube Working Pressure 180 lb/sq. in.

Tested by hydraulic pressure to 320 lb. Date of test 24-10-45. No. of Certificate 22033 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler - No. and Description of safety valves to each boiler One - 2" Double Spring.

Area of each set of valves per boiler { per Rule 3.33 sq. in. Pressure to which they are adjusted 180 lb. Are they fitted with easing gear Yes
as fitted 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 { end D.R.
inter -

Long seams D.R. D.B.S. Diameter of rivet holes in { circ. seams 15/16" Pitch of rivets { 27"
long seams 15/16"

Percentage of strength of circ. end seams { plate 67.6 Percentage of strength of circ. intermediate seam { plate
rivets 54.9 rivets

Percentage of strength of longitudinal joint { plate 80 Working pressure of shell by Rules
rivets 94.5 combined

Thickness of butt straps { outer 5/8" No. and Description of Furnaces in each Boiler One - Morison
inner 3/4"

Material Steel Tensile strength 26/30 tons Smallest outside diameter 3-5 1/4"

Length of plain part { top - Thickness of plates { crown 17/32" Description of longitudinal joint Welded
bottom - bottom

Dimensions of stiffening rings on furnace or c.c. bottom - Working pressure of furnace by Rules

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 { front Steel Tensile strength 26/30 tons Thickness { 13/16"
back 3/4"

Mean pitch of stay tubes in nests 10" Pitch across wide water spaces 10 1/2" Working pressure { front
back

Girders to combustion chamber tops: Material Steel Tensile strength 26/32 tons Depth and thickness of girder

at centre 2 @ 5/8" x 6" Length as per Rule 20. 11/16" Distance apart 7" and 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 rivetted over Yes

Working pressure by Rules Front plate at bottom: Material Steel Tensile strength 26/30 tons

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 rivetted over

Working pressure Main stays: Material Steel Tensile strength 28/32 tons

Diameter { At body of stay 2 1/8" No. of threads per inch 6 Area supported by each stay -
Over threads 2 1/8"

Working pressure by Rules Screw stays: Material Steel Tensile strength 26/30 tons

Diameter { At turned off part 1 5/8" No. of threads per inch 9 Area supported by each stay -
Over threads 1 5/8"

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Working pressure by Rules. Are the stays drilled at the outer ends. No. Top Margin stays: Diameter { At turned off part... 1 1/2" or Over threads... 1 1/2" Working pressure by Rules. 9 W.G. No. of threads per inch. 9 No. in Reg. Book. Tubes: Material S.D. Steel External diameter { Plain... 2 1/2" Stay... 2 1/2" Thickness { 5/16" and 3/8" No. of threads per inch. 9 No. of rivets and diameter of rivet holes. 46 - 15/16" Manhole compensation: Size of opening. 4.6" Depth of flange if manhole flanged. 3" Tensile strength. Thickness of shell. Description of longitudinal joint. Diameter of rivet holes. Pitch of rivets. Percentage of strength of joint. Rivets. Plate. Rivets. No. and diameter. Generators m. Internal diameter. Working pressure by Rules. Thickness of crown. No. of Sets. 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. Number of elements. Material of tubes. Internal diameter and thickness of tubes. Material of headers. Tensile strength. 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 casing gear. Working pressure as per Rules. Pressure to which the safety valves are adjusted. Hydraulic test pressure. Is a governor. tubes. forgings and castings. and after assembly in place. Are drain cocks. Are the cylind. Cooling Wat. Lubricating. Air Compress. Scavenging A. AIR RECI. Is each receiv. Can the inter. Is there a dra. High Pressur. Seamless, lap. Starting Air. Seamless, lap. ELECTRIC. Pressure of st. If alternating. on and off. Are all termi. or shielded th. If the generat. If the generat. PLANS. A. SPARE GI.

The foregoing is a correct description. ALEX. ANDERSON & SONS LTD. Per A. H. B. Fleming. Are the approved plans of boiler and superheater forwarded herewith. Appd. 32.5-43. Is each receiv. Can the inter. Is there a dra. High Pressur. Seamless, lap. Starting Air. Seamless, lap. ELECTRIC. Pressure of st. If alternating. on and off. Are all termi. or shielded th. If the generat. If the generat. PLANS. A. SPARE GI.

Is this Boiler a duplicate of a previous case. Yes. If so, state Vessel's name and Report No. "EMPIRE BELGRAVE" - Glasgow Report No. 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 the approved plans and the specification. The materials and workmanship are good. The boilers have been satisfactorily fitted on board the vessel and tried under steam. The safety valves have been adjusted to 180 lb.

Survey Fee ... £ 6 : 18 : 0 } When applied for, 4 JUN 1946 }
Specification £ 1 : 14 : 6 } When received, 19.

M. Dale

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute. GLASGOW 4 JUN 1946. Assigned. SEE ACCOMPANYING MACHINERY REPORT



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