

Rpt. 5a.

## REPORT ON BOILERS.

No. 68627

Received at London Office.

Date of writing Report 29-6-44 When handed in at Local Office 1.7.44 Port of GLASGOW

No. in Reg. Book. Survey held at GLASGOW Date, First Survey 11.1.44 Last Survey 27-6-1944

on the S.S. "EMPIRE DOMBEY" (Number of Visits 24) Gross 813 Tons Net 334

Master Built at GLASGOW By whom built A.Y.J. INGLIS & CO. Yard No. 1227P When built 1944

Engines made at CLYDEBANK By whom made HITCHISON BLAIR LTD. Engine No. 261 When made 1944

Boilers made at GLASGOW By whom made BARCLAY CURRIE & CO. LTD. Boiler No. 42/24 When made 1944

Nominal Horse Power Owners. H. of War Transport Port belonging to Glasgow

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

Manufacturers of Steel COALVILLE LTD. (Letter for Record S ✓)

Total Heating Surface of Boilers 21884 ✓ Is forced draught fitted YES ✓ Coal or Oil fired OIL ✓

No. and Description of Boilers ONE SINGLE ENDED MULTITUBULAR ✓ Working Pressure 190 LBS ✓

Tested by hydraulic pressure to 335 LBS ✓ Date of test 9-3-44 No. of Certificate 21681 Can each boiler be worked separately ✓

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler 1-3" Double ✓

Area of each set of valves per boiler per Rule 13.34 ✓ as fitted 14.14 ✓ Pressure to which they are adjusted 190 LBS ✓ 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 2" to Bunkers ✓ Is oil fuel carried in the double bottom under boilers No ✓

Smallest distance between shell of boiler and tank top plating ✓ Is the bottom of the boiler insulated Yes ✓

Largest internal dia. of boilers 14'6" ✓ Length 11'6" ✓ Shell plates: Material S ✓ Tensile strength 29/32 tons ✓

Thickness 1 7/32" ✓ Are the shell plates welded or flanged Description of riveting: circ. seams end DOUBLE ✓ inter 3.528" ✓

long. seams D.B.S. TR. R. ✓ Diameter of rivet holes in circ. seams 1 5/16" ✓ long. seams 1 5/16" ✓ Pitch of rivets 8 15/16" ✓

Percentage of strength of circ. end seams plate 62.7 ✓ rivets 30.1 ✓ Percentage of strength of circ. intermediate seam plate 85.3 ✓ rivets 92.5 ✓

Percentage of strength of longitudinal joint plate 85.3 ✓ rivets 92.5 ✓ combined 89.1 ✓ Working pressure of shell by Rules 191 lbs

Thickness of butt straps outer 1 5/16" ✓ inner 1 1/16" ✓ No. and Description of Furnaces in each Boiler THREE DEIGHTON ✓

Material S ✓ Tensile strength 26/30 tons ✓ Smallest outside diameter 42 1/4" ✓

Length of plain part top 8 3/4" ✓ bottom 8 3/4" ✓ Thickness of plates crown 9/16" ✓ bottom 9/16" ✓ Description of longitudinal joint WELDED ✓

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

End plates in steam space: Material S ✓ Tensile strength 26/30 tons ✓ Thickness 1 1/4" ✓ Pitch of stays 19" x 20" ✓

How are stays secured DOUBLE NUTS ✓ Working pressure by Rules 27/32" ✓

Tube plates: Material front S ✓ back S ✓ Tensile strength 26/30 tons ✓ Thickness 3/4" ✓

Mean pitch of stay tubes in nests 9.06" ✓ Pitch across wide water spaces 13 3/4" ✓ Working pressure front 27/32" ✓ back 27/32" ✓

Girders to combustion chamber tops: Material S ✓ Tensile strength 28/32 tons ✓ Depth and thickness of girder at centre 2c 10 1/2" x 7/8" ✓ Length as per Rule 3' 3 9/16" ✓ Distance apart 9" ✓ No. and pitch of stays in each 3c 9 1/2" ✓ Working pressure by Rules ✓

Tensile strength 26/30 tons ✓ Thickness: Sides 2 3/32" ✓ Back 1 1/16" ✓ Top 2 3/32" ✓ Bottom 2 3/32" ✓

Pitch of stays to ditto: Sides 9 1/2" x 10" ✓ Back 8 1/4" x 10" ✓ Top 9" x 9 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 2 7/32" ✓ Lower back plate: Material S ✓ Tensile strength 26/30 tons ✓ Thickness 2 5/32" ✓

Pitch of stays at wide water space 13 3/4" ✓ Are stays fitted with nuts or riveted over NUTS ✓

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

Diameter At body of stay 3" ✓ or over threads No. of threads per inch 6 ✓ Area supported by each stay

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

Diameter At turned off part 1 3/4" ✓ or over threads No. of threads per inch 9 ✓ Area supported by each stay



Working pressure by Rules..... Are the stays drilled at the outer ends No ✓ Margin stays: Diameter { At turned off part..... 1 7/8 ✓ or Over threads..... 2 1/8 ✓

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

Tubes: Material S ✓ External diameter { Plain..... 2 3/4 ✓ Stay..... 2 3/4 ✓ Thickness { 3/8 ✓ 5/16 ✓ No. of threads per inch 9 ✓

Pitch of tubes 4" x 3 7/8" ✓ Working pressure by Rules..... Manhole compensation: Size of opening in shell plate 20 3/4" x 16 3/4" ✓ Section of compensating ring..... X 1 1/32" No. of rivets and diameter of rivet holes 40 @ 1 5/16" ✓

Outer row rivet pitch at ends 8 15/16" ✓ 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..... 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 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 been complied with



The foregoing is a correct description,

Alfred Maclellan Manufacturer.

Dates of Survey while building { During progress of work in shops - - - 1944 Jan 11 13 20 21 25 31 Feb 4 ✓ Are the approved plans of boiler and superheater forwarded herewith Yes (If not state date of approval.)  
During erection on board vessel - - - May 31 Jun 1 6 14 19 22 26 27 ✓ Total No. of visits 24

Is this Boiler a duplicate of a previous case..... No 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 in accordance with the Society's rules, the approved plans and the M.O.S. specification. The materials and workmanship are good. It has been efficiently installed in the vessel and the safety valves adjusted under steam to 190 lb./sq. inch

Survey Fee

Travelling

See Mach. Rpt.

When applied for..... 19.....

When received..... 19.....

R. Russell

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW 4 JUL 1944

Assigned



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