

REPORT ON BOILERS.

No. 73018

Received at London Office 28 JUL 1948

Date of writing Report 9/7/1048. When handed in at Local Office 12/7/1048. Port of Glasgow.

No. in Reg. Book. Survey held at Glasgow. Date, First Survey (1947) Apr. 23rd Last Survey 30/6/1948.

on the M/V DARA (Number of Visits 4) Tons { Gross 5080 Net 2766

Master Built at Glasgow. By whom built Barclay Curie & Co. Ltd. No. 711 When built 1948

Engines made at Glasgow. By whom made Barclay Curie & Co. Ltd. Engine No. 711 When made 1948

Boilers made at Glasgow. By whom made Barclay Curie & Co. Ltd. Boiler No. 711 When made 1948.

Nominal Horse Power 217. Owners British India Steam Navigation Co. Ltd. Port belonging to London.

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

O/L 2490. 4/1
Ex 943. 1330. 4/1

Manufacturers of Steel Cowi Ld. (Letter for Record P.)

Total Heating Surface of Boilers 3820 sq. ft. Is forced draught fitted Yes. Coal or Oil fired Oil & Gas.

No. and Description of Boilers 1 - S.E. Riv. Tube. Working Pressure 120 lbs.

Tested by hydraulic pressure to 230 lbs. Date of test 19/9/47 No. of Certificate 22512. Can each boiler be worked separately Yes.

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler 1 - 3 1/2 Donkey 1.4.1.

Area of each set of valves per boiler { per Rule 17.685 E Pressure to which they are adjusted 120 lbs. 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 11 in. Is oil fuel carried in the double bottom under boilers Yes.

Smallest distance between shell of boiler and tank top plating 11 in. Is the bottom of the boiler insulated Yes.

Largest internal dia. of boilers 16' 0" Length 11' 9" Shell plates: Material S. Tensile strength 26/305.

Thickness 7/16 Are the shell plates welded or flanged No. Description of riveting: circ. seams { end 2.2. inter. 2.2.

Long. seams T.R.-D.S.S. Diameter of rivet holes in { circ. seams 1" long. seams 1 1/16 Pitch of rivets { 3.29. 67/8.

Percentage of strength of circ. end seams { plate 69.6 rivets 43.2 Percentage of strength of circ. intermediate seam { plate 86.3 rivets 85.2

Percentage of strength of longitudinal joint { plate 86.3 rivets 85.2 combined 89.8 Working pressure of shell by Rules 121 lbs.

Thickness of butt straps { outer 1 1/16 inner 1 1/16 No. and Description of Furnaces in each Boiler Three Donkey Section.

Material S. Tensile strength 26/305. Smallest outside diameter 39 1/4

Length of plain part { top 3' 6" bottom 3' 6" Thickness of plates { crown 3/8 bottom 3/8 Description of longitudinal joint Welded.

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 134 lbs.

End plates in steam space: Material S. Tensile strength 26/305. Thickness 1 3/32 Pitch of stays 21 x 21 1/2

How are stays secured Donkey units. Working pressure by Rules 122 lbs.

Tube plates: Material { front S. back S. Tensile strength { 26/305. Thickness { 1 1/16 28/32 - 8 1/16 Ex. 943 SECTION.

Mean pitch of stay tubes in nests 19.83" Pitch across wide water spaces 14 Working pressure { front 126 lbs. back 174 lbs.

Orders to combustion chamber tops: Material S. Tensile strength 28/325. Depth and thickness of girder centre 18 1/2 x 1 1/2 x 2 Length as per Rule 34 1/2 Distance apart 8 1/2 & 9 1/2 No. and pitch of stays each 2 @ 11 Working pressure by Rules 150 lbs. Combustion chamber plates: Material S.

Tensile strength 26/305. Thickness: Sides 2 1/32 Back 19/32 Top 2 1/32 Bottom 2 1/32

Pitch of stays to ditto: Sides 11 x 11 1/4 Back 10 x 10 1/2 Top 11 x 8 1/2 Are stays fitted with nuts or riveted over Yes.

Working pressure by Rules 121 lbs. Front plate at bottom: Material S. Tensile strength 26/305.

Thickness 1 1/16 Lower back plate: Material S. Tensile strength 26/305. Thickness 43/64

Pitch of stays at wide water space 14 Are stays fitted with nuts or riveted over Yes.

Working Pressure 136 lbs. Main stays: Material S. Tensile strength 28/325.

Ameter { At body of stay, or Over threads 2 5/8 No. of threads per inch 6 Area supported by each stay 21 1/2 x 21

Working pressure by Rules 131 lbs. Screw stays: Material S. Tensile strength 26/305.

Ameter { At turned off part, or Over threads 1 1/2 of 15/8 No. of threads per inch 9 Area supported by each stay 10 x 10 - 1 1/2 in

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Working pressure by Rules 125 lbs Are the stays drilled at the outer ends Yes Margin stays: Diameter { At turned off part, or Over threads } 1 1/2 -
No. of threads per inch 9 Area supported by each stay 114.5 Working pressure by Rules 124 lbs
Tubes: Material S. External diameter { Plain 2 1/2 Stay 1 3/4 } Thickness { 1/4 } No. of threads per inch 9
Pitch of tubes 3 3/4 Working pressure by Rules 160 lbs Manhole compensation: Size of opening 1 1/2
shell plate 20 x 16 Section of compensating ring 19 x 7 1/2 No. of rivets and diameter of rivet holes 40 @ 1 1/8
Outer row rivet pitch at ends 7 1/2 Depth of flange if manhole flanged 3 1/4 Steam Dome: Material Man. fitted
Tensile strength 34 Thickness of shell 3/4 Description of longitudinal joint Butt
Diameter of rivet holes 1 1/8 Pitch of rivets 2 1/2 Percentage of strength of joint { Plate 100 Rivets 100 }
Internal diameter 20 Working pressure by Rules 160 lbs Thickness of crown 3/4 No. and diameter of rivets in crown 40 @ 1 1/8
stays 1 Inner radius of crown 10 Working pressure by Rules 160 lbs
How connected to shell By doubler plate under dome Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell 1 1/8 @ 2 1/2

Type of Superheater Water tube Manufacturers of { Tubes Barclay, Curle & Co., Ltd. Steel forgings Barclay, Curle & Co., Ltd. Steel castings Barclay, Curle & Co., Ltd. }
Number of elements 1 Material of tubes Steel Internal diameter and thickness of tubes 2 1/2 x 1/4
Material of headers Steel Tensile strength 34 Thickness 3/4 Can the superheater be shut off from the boiler Yes
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 Yes
Area of each safety valve 10 Are the safety valves fitted with easing gear Yes Working pressure as per Rules 160 lbs
Rules 160 lbs Pressure to which the safety valves are adjusted 160 lbs Hydraulic test pressure 240 lbs
tubes 1 forgings and castings 1 and after assembly in place 1 Are drain cocks Yes
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 Yes

FOR BARCLAY, CURLE & CO., LTD.
A. Macneill.

The foregoing is a correct description.

Dates of Survey { During progress of work in shops - - } See Machinery Report Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Yes
while building { During erection on board vessel - - } See Machinery Report Total No. of visits 1

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. M/V DUMRA. Reg. No. 71

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

This combination exhaust gas & oil fired boiler has been built under Special Survey in accordance with the Rules & the approved plans & the materials & workmanship are good.

The boiler has been examined under full working conditions & the safety valves have been adjusted under steam to a working pressure of 120 lbs/sq. in.
Compressed Rings: F.V. 3/32 A.V. 1/32

Survey Fee ... £

Travelling Expenses (if any) £

When applied for, 10

When received, 10

C. A. L. L. L.

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute GLASGOW 27 JUL 1948

Assigned See accompanying Machy. Rpt



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