

REPORT ON BOILERS.

No. 73018

Received at London Office 28 JUL 1948

Date of writing Report 9/7/1948 When handed in at Local Office 12/7/1948 Port of Glasgow

No. in Reg. Book. Glasgow 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 5030
Net 2766

Master ✓ Built at Glasgow By whom built Barrington & Co. Ltd. Ward No. 711 When built 1948

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

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

Nominal Horse Power 217 Owners British India Ste. Nav. Co. Ltd. Port belonging to London

MULTITUBULAR BOILERS ~~MAIN, AUXILIARY, OR DONKEY.~~

OIL 2490.71
EX 943-1330.71

Manufacturers of Steel Cammie & Co. (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 1.4.2.

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
as fitted 19.24 E

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 Will run. Is oil fuel carried in the double bottom under boilers ✓

Smallest distance between shell of boiler and tank top plating Fitted as per spec. 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. ✓

Long. seams T.R.-D.S.S. Diameter of rivet holes in circ. seams 1" Pitch of rivets 3.29"
long. seams 15/16" 67/16"

Percentage of strength of circ. end seams plate 69.6 Percentage of strength of circ. intermediate seam plate
rivets 47.2 rivets

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

Thickness of butt straps outer 1 1/16" No. and Description of Furnaces in each Boiler Three Division Section
inner 1 3/16"

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

Length of plain part top ✓ Thickness of plates bottom 3/8" Description of longitudinal joint Welded
bottom ✓

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 nuts Working pressure by Rules 122 lbs.

Tube plates: Material front S. Tensile strength 26/305 Thickness 1 1/16" Working pressure front 126 lbs.
back S. 28/32 174 lbs.

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 1/16" x 2 Length as per Rule 34 1/16" 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 1 9/32" Top 2 1/32" Bottom 2 1/32"

Pitch of stays to ditto: Sides 11 x 11 1/4" Back 10 x 10" Top 11 x 8 1/2" Are stays fitted with nuts or riveted over Yes
10 x 7 1/2" 11 x 9 1/2"

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

Girth diameter At body of stay, 2 5/8" No. of threads per inch 6 Area supported by each stay 21 1/2" x 21"
Over threads

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

Girth diameter At turned off part, 1 1/2" of 1 5/8" No. of threads per inch 9 Area supported by each stay 10 x 10" - 1 1/2" dia
Over threads

See 14/8/48

EX-943 SECTION.

Working pressure by Rules 125 lbs Are the stays drilled at the outer ends no Margin stays: Diameter 1 1/2 ^{At turned off part} 1 1/2 ^{or} 1 1/2 ^{Over threads} 1 1/2

No. of threads per inch 9 Area supported by each stay 112.5 Working pressure by Rules 124 lbs

Tubes: Material S. External diameter ^{Plain} 2 1/2 ^{Stay} 1 3/4 Thickness 1/4 ^{1/4} ^{1/4} No. of threads per inch 9

Pitch of tubes 3 3/4 3 3/4 3 3/4 3 3/4 Working pressure by Rules 160 lbs Manhole compensation: Size of opening 16

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 _____ 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 _____

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 _____

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 _____

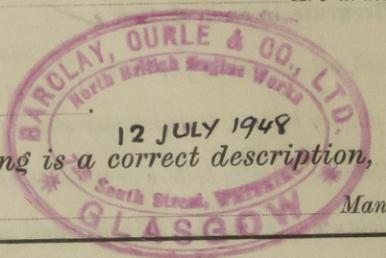
Rules _____ Pressure to which the safety valves are adjusted _____ Hydraulic test pressure _____

tubes _____ forgings and castings _____ and after assembly in place _____ Are drain cocks _____

valves fitted to free the superheater from water where necessary _____

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 - -} _____ ^{During erection on board vessel - - -} _____ See Machinery Report

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) yes

Total No. of visits _____

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

Compressing Rings: F.V. 1 3/2 A.V. 1 1/2

Survey Fee ... £ _____ When applied for, 10

Travelling Expenses (if any) £ _____ When received, 10

C. A. Luman
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute GLASGOW 27 JUL 1948

Assigned See accompanying Machy. Rpt

