

pt. 5a.

REPORT ON BOILERS.

No.

Received at London Office

24 NOV 1941

Date of writing Report 192 When handed in at Local Office 192 Port of **CARDIFF**

No. in Survey held at **CARDIFF** Date, First Survey Last Survey 192

62 on the **M.V. "KING ALFRED"** (Number of Visits) Gross **6919** Tons Net **4151**

ster - Built at **GREENOCK** By whom built **GREENOCK DOCKYARD CO. LD.** Yard No. When built **1941**

ines made at **GLASGOW.** By whom made **BARCLAY CURLE & CO. LTD.** Engine No. When made **1941**

ilers made at **GLASGOW** By whom made **BARCLAY CURLE & CO. LTD.** Boiler No. When made **1941**

iminal Horse Power **687** Owners **KING LINE LTD.** Port belonging to **LONDON**

MULTITUBULAR BOILERS - ~~MAIN, AUXILIARY & DONKEY.~~ DONKEY.

Manufacturers of Steel (Letter for Record)

Total Heating Surface of Boilers **718** *of oil fired?* Is forced draught fitted **yes** Coal or Oil fired **Oil**

No. and Description of Boilers **One Multitubular Scotch** Working Pressure **120 lbs.**

Tested by hydraulic pressure to **230 lbs.** Date of test - No. of Certificate - Can each boiler be worked separately **Yes**

Area of Firegrate in each Boiler - No. and Description of safety valves to each boiler **2 Spring loaded**

Area of each set of valves per boiler { per Rule **6.6** 11.09 as fitted 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 -

Smallest distance between boilers or uptakes and bunkers or woodwork Is oil fuel carried in the double bottom under boilers

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

Largest internal dia. of boilers **11'-0"** Length **11'-0"** Shell plates: Material **Steel** Tensile strength **29.33**

Thickness **21/32"** Are the shell plates welded or flanged **flanged** Description of riveting: circ. seams { end **5/8"** inter. - *DR Def*

g. seams **5/4"** *D.R. D.B.S.* Diameter of rivet holes in { circ. seams **13/16"** Pitch of rivets { **2.816** long. seams **13/16"** **4.375**

Percentage of strength of circ. end seams { plate **71.3** rivets **44.48** Percentage of strength of circ. intermediate seam { plate - rivets -

Percentage of strength of longitudinal joint { plate **81.42** rivets **80.52** combined **89.7** Working pressure of shell by Rules **122 lbs.**

Thickness of butt straps { outer **17/32** inner **21/32** No. and Description of Furnaces in each Boiler **One corrugated (Deighton)**

Material Tensile strength **26.30** Smallest outside diameter **3'-7 1/2"**

Length of plain part { top **10 5/8"** bottom **10 5/8"** Thickness of plates { crown **5/8"** bottom **5/8"** Description of longitudinal joint -

Dimensions of stiffening rings on furnace or c.c. bottom - Working pressure of furnace by Rules **121 lbs. per sq. inch**

End plates in steam space: Material **S.M. Steel** Tensile strength **26.30** Thickness **13/16"** Pitch of stays **17" x 13 1/2"**

How are stays secured **Double nuts and washers** Working pressure by Rules **127 lbs.**

End plates: Material { front **S.M. Steel** back **S.M. Steel** Tensile strength { **26.30** Thickness { **23/32"** **11/16"**

Minimum pitch of stay tubes in nests **10.625"** Pitch across wide water spaces **13 5/8"** Working pressure { front - back -

Ends to combustion chamber tops: Material **S.M. Steel** Tensile strength **28.32** Depth and thickness of girder

Centre **8 1/2" x 9/16" Double** Length as per Rule - Distance apart **10"** No. and pitch of stays

Each **2 10" x 10"** Working pressure by Rules **123 lbs.** Combustion chamber plates: Material **Steel**

Tensile strength **26.30** Thickness: Sides **19/32"** Back **19/32"** Top **19/32"** Bottom **19/32"**

Pitch of stays to ditto: Sides **10" x 10"** Back **9" x 10 1/2"** Top **10" x 10"** Are stays fitted with nuts or riveted over **Nuts**

Working pressure by Rules **121 lbs.** Front plate at bottom: Material **Steel** Tensile strength **26.30**

Thickness **23/32"** Lower back plate: Material **Steel** Tensile strength **26.30** Thickness **11/16"**

Pitch of stays at wide water space **9 1/2" x 14 1/2"** Are stays fitted with nuts or riveted over **Nuts**

Working Pressure **178 lbs.** Main stays: Material **Steel** Tensile strength **28.32**

hipmeter { At body of stay, **2 1/8"** No. of threads per inch **6** Area supported by each stay **229.5 sq. in.** Over threads -

Working pressure by Rules **133** Screw stays: Material **Steel** Tensile strength **26.30**

hipmeter { At turned off part, - No. of threads per inch **9** Area supported by each stay **99.75 sq. in.** Over threads **1 1/2"**

Working pressure by Rules **125lbs.** Are the stays drilled at the outer ends **No** Margin stays: Diameter { At turned off part, - or Over threads **1 1/8"**

No. of threads per inch **9** Area supported by each stay **117.5 sq. in** Working pressure by Rules **129 lbs.**

Tubes: Material **Steel** External diameter { Plain **3"** Stay **3"** Thickness **11 & 10 W.G.** No. of threads per inch **9**

Pitch of tubes **4 1/4" x 4 1/4": 2 3/4" x 2 7/8"** Working pressure by Rules **140 lbs** Manhole compensation: Size of opening **362**

shell plate **20" x 16"** Section of compensating ring **9 1/2 x 21/32"** No. of rivets and diameter of rivet holes **20 rivets- 1" Hole**

Outer row rivet pitch at ends **5 1/4"** Depth of flange if manhole flanged **3 1/2"** 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

How connected to shell Inner radius of crown Working pressure by Rules

of rivets in outer row in dome connection to shell Size of doubling plate under dome Diameter of rivet holes and pitch

Type of Superheater Manufacturers of { Tubes 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 of tubes

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 23 inclusive for boilers been complied with

The foregoing is a correct description, Manufacturer

Dates of Survey { During progress of work in shops - - } Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

while building { During erection on board vessel - - } Total No. of visits

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

This boiler was built under the Survey of the British Corporation Registry. The material and workmanship is good. The boilers are eligible in our opinion to be classed for a working pressure of 120lbs.

Survey Fee ... £ : : When applied for, 192

Travelling Expenses (if any) £ : : When received, 192

Henrich W. G. Paton & W. E. D.
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute **FRI. 1 APR 1949**

Assigned

