

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

Engines made at

GLASGOW.

By whom made BARCLAY CURLE & CO. LTD.

Engine No.

When made 1941

Boilers made at

GLASGOW

By whom made BARCLAY CURLE & CO. LTD.

Boiler No.

When made 1941

Nominal 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

Is forced draught fitted yes

Coal or Oil fired Oil

Name 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

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 3/4 DR Ref

g. seams

3/4"

D.R.D.B.S.

Diameter of rivet holes in

circ. seams 13/16"

long. seams 13/16"

Pitch of rivets {

2.816

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 1/4"

Thickness of plates {crown 3/8"

bottom 3/8"

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

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

Girders to combustion chamber tops: Material

S.M. Steel

Tensile strength

28.32

Depth and thickness of girder

Centre 8 1/4" 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

Pitch of stay

2 1/8"

No. of threads per inch

6

Area supported by each stay 229.5 sq. in.

Working pressure by Rules

133

Screw stays: Material

Steel

Tensile strength

26.30

Pitch of stay

1 1/2"

No. of threads per inch

9

Area supported by each stay 99.75 sq. in.

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" Working pressure by Rules 129 lbs.

No. of threads per inch 9 Area supported by each stay 117.5 sq.in Thickness 11 & 10 W.G. No. of threads per inch 9

Tubes: Material Steel External diameter { Plain 3" Stay 3" Pitch of tubes 0.1 x 4 1/4" x 2 3/4" x 2 7/8" EXH 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

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 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, 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,

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