t. 5a.

REPORT ON BOILERS.

No. 56500

Received at London Office -5 FEB 1936

of writing Report ____ 19__ When handed in at Local Office 1. 2. 1936 Port of Glasgow

in Book. Survey held at Glasgow Date, First Survey 2. 5. 35 Last Survey 29-1- 1936

on the new steel S/S "FORT AMHERST". (Number of Visits ✓) Tons Gross 3489 Net 1946

Built at Glasgow By whom built Blythswood S.B. Co Ltd Yard No. 39 When built 1935

Engines made at Glasgow By whom made David Rowan & Co Ltd Engine No. 984 When made 1935

Boilers made at Glasgow By whom made David Rowan & Co Ltd Boiler No. 984 When made 1935

Indicated Horse Power 408 Owners Furness Red Cross Line Port belonging to London

---

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

Manufacturers of Steel Plates - Steel Company of Scotland. Bars - Colvilles Ltd (Letter for Record (S) ✓)

Total Heating Surface of Boilers 6100 □ft ✓ Is forced draught fitted yes Coal or Oil fired oil

Number and Description of Boilers Two single ended marine Working Pressure 220 ✓

Tested by hydraulic pressure to 380 ✓ Date of test 23-8-35 No. of Certificate 19584 Can each boiler be worked separately yes

Area of Firegrate in each Boiler — No. and Description of safety valves to each boiler Two. Improved high lift

Area of each set of valves per boiler {per Rule 9.47 □" / as fitted 9.8 □"} Pressure to which they are adjusted 225 ✓ 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 21" Is oil fuel carried in the double bottom under boilers yes

Smallest distance between shell of boiler and tank top plating 15" Is the bottom of the boiler insulated yes

Largest ~~internal~~ external dia. of boilers 15'-6" ✓ Length 12'-6" ✓ **Shell plates:** Material Steel ✓ Tensile strength 29-33 tons

Thickness 1 15/32" ✓ Are the shell plates welded or flanged no ✓ Description of riveting: circ. seams {end DR ✓ / inter. —} long. seams D.B.S ; T.R. ✓

Diameter of rivet holes in {circ. seams F 1 3/8" B 1 1/2" / long. seams 1 1/2"} Pitch of rivets {F 3.43" B 4.083" / 10.6"}

Percentage of strength of circ. end seams {plate F60 B63.2 / rivets F46.8 B46.8} Percentage of strength of circ. intermediate seam {plate / rivets}

Percentage of strength of longitudinal joint {plate 85.6 / rivets 85.74 / combined 88.3} Working pressure of shell by Rules 222

Thickness of butt straps {outer 1 7/64" / inner 1 15/64"} **No. and Description of Furnaces in each Boiler** Three Deighton

Material Steel ✓ Tensile strength 26-30 tons ✓ Smallest outside diameter 3'-9 3/8" ✓

Length of plain part {top / bottom —} Thickness of plates {crown 11/16" / bottom 11/16"} Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom — Working pressure of furnace by Rules 223

End plates in steam space: Material Steel ✓ Tensile strength 26-30 tons ✓ Thickness 1 3/8" ✓ Pitch of stays 19" × 22" ✓

How are stays secured D N Working pressure by Rules 221

Tube plates: Material {front Steel ✓ / back "} Tensile strength {26-30 tons ✓ / " "} Thickness {7/8" / 3/4"}

Mean pitch of stay tubes in nests 9 1/4 Pitch across wide water spaces 13 1/2" ✓ Working pressure {front 223 / back 235}

Girders to combustion chamber tops: Material Steel ✓ Tensile strength 28-32 tons ✓ Depth and thickness of girder

at centre 2 @ 9 3/4" × 7/8" ✓ Length as per Rule 3-1 14/32" ✓ Distance apart 8 1/4" ✓ No. and pitch of stays

at each 3 @ 9" ✓ Working pressure by Rules 224 **Combustion chamber plates:** Material Steel

Tensile strength 26-30 tons ✓ Thickness: Sides 11/16" ✓ Back 23/32" Top 11/16" Bottom 27/32"

Pitch of stays to ditto: Sides 8 1/4" × 9" ✓ Back 10" × 8" ✓ Top 8 1/4" × 9" ✓ Are stays fitted with nuts or riveted over nuts ✓

Working pressure by Rules 221 **Front plate at bottom:** Material Steel ✓ Tensile strength 26-30 tons ✓

Thickness 7/8" ✓ **Lower back plate:** Material Steel ✓ Tensile strength 26-30 tons ✓ Thickness 53/64" ✓

Pitch of stays at wide water space 13 1/2" ✓ Are stays fitted with nuts or riveted over nuts ✓

Working Pressure 226 ✓ **Main stays:** Material Steel ✓ Tensile strength 28-32 tons ✓

Diameter {At body of stay, or Over threads 3 1/4 & 3" ✓} No. of threads per inch 6 ✓ Area supported by each stay 422 & 351 □" ✓

Working pressure by Rules 221 & 224 **Screw stays:** Material Steel ✓ Tensile strength 26-30 tons ✓

Diameter {At turned off part, or Over threads 1 3/4" ✓} No. of threads per inch 9 ✓ Area supported by each stay 80 □" ✓

Working pressure by Rules 226 *Are the stays drilled at the outer ends* no *Margin stays: Diameter* {*At turned off part, or Over threads* 1 7/8"

No. of threads per inch 9 *Area supported by each stay* 940" *Working pressure by Rules* 227

Tubes: *Material* steel *External diameter* {*Plain* 2½" *Stay* 2½" *Thickness* {8 WG 5/16" 3/8" 7/16" *No. of threads per inch* 9

Pitch of tubes 3 5/8" × 3 3/4" *Working pressure by Rules* 300 **Manhole compensation:** *Size of opening in*

shell plate 15½" × 19½" *Section of compensating ring* 10¾" × 1 15/32" *No. of rivets and diameter of rivet holes* 36 @ 1½"

Outer row rivet pitch at ends 10 1/16" *Depth of flange if manhole flanged* 3" **Steam Dome:** *Material* none

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 none *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 adjustea* *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* 22 *inclusive for boilers been complied with* yes.

The foregoing is a correct description,

For David Rowan & Co. Ltd

Archd. A. Grierson *Manufacturer*

Dates of Survey while building {*During progress of work in shops* - -} *Are the approved plans of boiler ~~and superheater~~ forwarded herewith* yes

(If not state date of approval.)

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

SEE ACCOMPANYING MACHINERY REPORT.

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.*)

The materials and workmanship are good.

The boilers have been constructed under special survey. Satisfactorily fitted in the vessel and their safety valves adjusted under steam.

Survey Fee ... ... £ See priority page

Travelling Expenses (if any) £ : :

When applied for, 19

When received, 19

L C Davis.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 4-FEB 1936

Assigned SEE ACCOMPANYING MACHINERY REPORT.

LC 1-2-36