

REPORT ON BOILERS.

No. 61012

APR 26 1939

Received at London Office

Date of writing Report 19 25.4.39 When handed in at Local Office 25.4.39 Port of Glasgow

No. in Survey held at Glasgow Date, First Survey 5.8.38 Last Survey 20-4-1939

Reg. Book. Glasgow (Number of Visits 69) Gross Tons 6348 Net Tons 3886

Master Port Glasgow Built at Port Glasgow By whom built Lithgow Ltd Yard No. 917 When built 1939

Engines made at Glasgow S. H. D. whom made David Rowan & Co Ltd Engine No. 1029 When made 1939

Boilers made at Glasgow By whom made David Rowan & Co Ltd Boiler No. 1029 When made 1939

Nominal Horse Power 867 Owners T & J. Harrison Port belonging to Swinpool

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Steel Company of Scotland Ltd (Letter for Record T)

Total Heating Surface of Boilers 10400 sq ft Is forced draught fitted no Coal or Oil fired coal

No. and Description of Boilers Two double ended Working Pressure 215

Tested by hydraulic pressure to 373 Date of test 10-1-39 No. of Certificate 20332 Can each boiler be worked separately yes

Area of Firegrate in each Boiler 137.9 sq ft No. and Description of safety valves to each boiler 2 opening loaded - ordinary

Area of each set of valves per boiler { per Rule 28.26 sq" as fitted 28.36 sq" Pressure to which they are adjusted 220 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 no

Smallest distance between shell of boiler and tank top plating 2'-6" Is the bottom of the boiler insulated yes

Largest internal dia. of boilers 17'-2" Length 18'-6" Shell plates: Material S Tensile strength 31-35 tons

Thickness 1 33/64" 1 35/64" Are the shell plates welded or flanged no Description of riveting: circ. seams { end WR lap inter. TR lap long. seams TR DBS Diameter of rivet holes in { circ. seams F 1 1/16" C 1 7/8" B 1 5/8" Pitch of rivets { ends 10 23/32" centre 10 29/32" Ends 1 9/8" centre 1 1/16"

Percentage of strength of circ. end seams { plate F 61.1 C 65. B 65 rivets F 43 C 63.8 B 43.6 Percentage of strength of circ. intermediate seam { plate 65 rivets 63.8

Percentage of strength of longitudinal joint { plate Ends 84.33 Centre 84.52 rivets Ends 88.4 Centre 91.3 combined Ends 87.3 Centre 87.4 Working pressure of shell by Rules 215

Thickness of butt straps { outer F 1 7/32" C 1 3/16" inner F 1 7/32" C 1 5/16" No. and Description of Furnaces in each Boiler Six Deighton

Material S Tensile strength 26-30 tons Smallest outside diameter 51.53"

Length of plain part { top 49" bottom 64" Thickness of plates { crown 49" bottom 64" Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom - Working pressure of furnace by Rules 219

End plates in steam space: Material S Tensile strength 26-30 tons Thickness 1 15/32" Pitch of stays 20 1/2" x 22 3/4"

How are stays secured DN Working pressure by Rules 216

Tube plates: Material { front steel back steel Tensile strength { 26-30 tons Thickness { 1" 1 1/16"

Mean pitch of stay tubes in nests 12 3/16" Pitch across wide water spaces 14 1/2" Working pressure { front 227 back 220

Girders to combustion chamber tops: Material Steel Tensile strength 29-33 tons Depth and thickness of girder at centre 2 @ 12 1/2" x 7/8" Length as per Rule 47.875" Distance apart 9 1/4" No. and pitch of stays in each 4 @ 9 1/4" Working pressure by Rules 219 Combustion chamber plates: Material S

Tensile strength 26-30 tons Thickness: Sides 4 7/64" Back - Top 4 7/64" Bottom 1"

Pitch of stays to ditto: Sides 9 1/4" x 9 1/4" Back - Top 9 1/4" x 9 1/4" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 222 Front plate at bottom: Material S Tensile strength 26-30 tons

Thickness 1" Lower back plate: Material - Tensile strength - Thickness -

Pitch of stays at wide water space - Are stays fitted with nuts or riveted over -

Working Pressure - Main stays: Material S Tensile strength 28-32 tons

Diameter { At body of stay, 3 1/2" & 3 1/4" No. of threads per inch 6 Area supported by each stay 482 sq" & 416 sq" Over threads -

Working pressure by Rules 225 & 223 Screw stays: Material Iron Tensile strength 21 1/2 tons

Diameter { At turned off part, 1 3/4" No. of threads per inch 9 Area supported by each stay 83.1 Over threads -

Working pressure by Rules 218 Are the stays drilled at the outer ends Margin stays: Diameter At turned off part. or Over threads

No. of threads per inch Area supported by each stay Working pressure by Rules

Tubes: Material Iron External diameter Plain 3 1/2" Stay 3 1/2" Thickness 7 w.s. 5/16 3/8 7/16 No. of threads per inch 9

Pitch of tubes 4 7/8" x 4 7/8" Working pressure by Rules 260 Manhole compensation: Size of opening in shell plate 16" x 20" Section of compensating ring 11 3/4" x 1 33/64" No. of rivets and diameter of rivet holes 36 @ 1 5/8"

Outer row rivet pitch at ends 10 23/32" Depth of flange if manhole flanged 3 1/4" 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 Smoke tube

Manufacturers of for particulars see Glob at N° 34267 & Inch. C. 91 copies attached

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 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 1.76 sq" Are the safety valves fitted with easing gear yes Working pressure as per Rules Pressure to which the safety valves are adjusted 223 Hydraulic test pressure: tubes forgings and castings and after assembly in place 430 Are drain cocks or 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

The foregoing is a correct description, for David Rowland & Co. Ltd. Manufacturer. Arch. H. Swanson

Dates of Survey During progress of work in shops while building During erection on board vessel

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

Total No. of rivets SEE ACCOMPANYING MACHINERY REPORT

Is this Boiler a duplicate of a previous case yes If so, state Vessel's name and Report No. Scientist G.L. Rpt N° 60115

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.

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25/4/39

Survey Fee £ See Miniby App When applied for, 19

Travelling Expenses (if any) £ See Miniby App When received, 19

Sh. Davis
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 25 APR 1939

Assigned SEE ACCOMPANYING MACHINERY REPORT.

