

REPORT ON BOILERS.

No. 19430

Received at London Office

14 APR 1934

Date of writing Report 3-6-31 When handed in at Local Office 13th APRIL 1934 Port of Glasgow

No. in Reg. Book. 1033 Glasgow Date, First Survey 16th JULY 1930 Last Survey 12th APRIL 1934
on the 5/5 "Karabagh" (Number of Visits ✓) Gross Tons ✓ Net Tons ✓

Master Glasgow Built at Glasgow By whom built Blythwood & Co^l Yard No. 32 When built 1931
Engines made at Glasgow By whom made John & McCand. Co^l Engine No. 1168 When made 1931
Boilers made at ditto By whom made John & McCand. Co^l Boiler No. 1168 When made 1931
Nominal Horse Power 490 Owners Baltic Trading Co^l Port belonging to London

MULTITUBULAR BOILERS ~~MAIN~~, AUXILIARY, ~~MAIN~~.

Manufacturers of Steel Vereenigte Stahlwerke a. S. Steel Co^l of Scotland Letter for Record S ✓

Total Heating Surface of Boilers 2780 # Is forced draught fitted yes ✓ Coal or Oil fired oil ✓

No. and Description of Boilers 2 Single Ended ✓ Working Pressure 150 ✓

Tested by hydraulic pressure to 245 ✓ Date of test 24.3.31 No. of Certificate 2009 Can each boiler be worked separately yes ✓

Area of Firegrate in each Boiler oil fuel ✓ and Description of safety valves to each boiler Cochran's (Double) Improved High Lift

Area of each set of valves per boiler (per Rule 6.317 # as fitted 7.952 #) Pressure to which they are adjusted 155 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 27" Is oil fuel carried in the double bottom under boilers no ✓

Smallest distance between shell of boiler and deck top plating 12" Is the bottom of the boiler insulated yes ✓

Largest internal dia. of boilers 11-5-218 Length 11-6" Shell plates: Material S ✓ Tensile strength 29.33 ✓

Thickness 25/32" Are the shell plates welded or flanged ✓ Description of riveting: circ. seams DR ✓

long. seams TRDBS ✓ Diameter of rivet holes in (circ. seams 15/16" long. seams 27/32") Pitch of rivets { 3.096 ✓ 6 5/32" ✓

Percentage of strength of circ. end seams (plate 69.6 rivets 45.2) Percentage of strength of circ. intermediate seam (plate 86.2 rivets 86.5) Working pressure of shell by Rules 152 ✓

Percentage of strength of longitudinal joint (plate 86.2 rivets 86.5 combined 89.4)

Thickness of butt straps (outer 5/8" inner 3/4") No. and Description of Furnaces in each Boiler 2 Deightons ✓

Material S ✓ Tensile strength 26-30 ✓ Smallest outside diameter 3-27/8" ✓

Length of plain part (top ✓ bottom ✓) Thickness of plates (crown 7/16" bottom 7/16") Description of longitudinal joint weld ✓

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 160 ✓

End plates in steam space: Material S ✓ Tensile strength 26-30 ✓ Thickness 15/16" ✓ Pitch of stays 16 3/8" x 15 1/4" ✓

How are stays secured DN Washers ✓ Working pressure by Rules 159 ✓

Tube plates: Material (front S back S) ✓ Tensile strength { 26-30 ✓ Thickness { 11/16" ✓

Mean pitch of stay tubes in nests 10" ✓ Pitch across wide water spaces 13 3/4" ✓ Working pressure (front 183 back 164) ✓

Girders to combustion chamber tops: Material S ✓ Tensile strength 29.33 ✓ Depth and thickness of girder at centre 9 x 3 1/4" (2) ✓

Length as per Rule 34.68 ✓ Distance apart 10 1/8" ✓ No. and pitch of stays in each 3 at 8 3/4" ✓

Working pressure by Rules 164 ✓ Combustion chamber plates: Material S ✓

Tensile strength 26-30 ✓ Thickness: Sides 5/8" ✓ Back 5/8" ✓ Top 5/8" ✓ Bottom 5/8" ✓

Pitch of stays to ditto: Sides 8 3/4" x 10" ✓ Back 9 x 9 3/4" ✓ Top 8 3/4" x 10 1/8" ✓ Are stays fitted with nuts or riveted over DN ✓

Working pressure by Rules 153 ✓ Front plate at bottom: Material S ✓ Tensile strength 26-30 ✓

Thickness 29/32" ✓ Lower back plate: Material S ✓ Tensile strength 26-30 ✓ Thickness 13/16" ✓

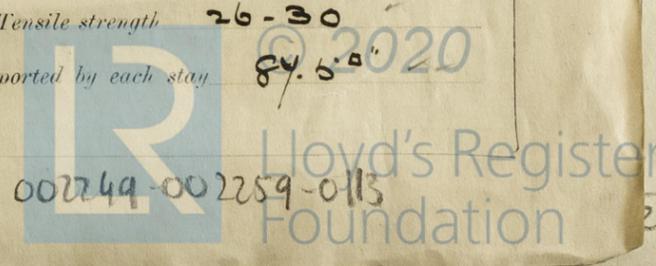
Pitch of stays at wide water space 14" ✓ Are stays fitted with nuts or riveted over Nuts ✓

Working Pressure 194 ✓ Main stays: Material S ✓ Tensile strength 28.32 ✓

Diameter (At body of stay, or Over threads) 2 3/8" ✓ No. of threads per inch 6 ✓ Area supported by each stay 250.6 # ✓

Working pressure by Rules 158 ✓ Screw stays: Material S ✓ Tensile strength 26-30 ✓

Diameter (At turned off part, or Over threads) 1 5/8" ✓ No. of threads per inch 9 ✓ Area supported by each stay 84.5 # ✓



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Working pressure by Rules 154 Are the stays drilled at the outer ends 90 Margin stays: Diameter ^{At turned off part.} 13/4"
 No. of threads per inch 9 Area supported by each stay 106.68 Working pressure by Rules 169
 Tubes: Material Iron External diameter ^{Plain} 23 1/4" Thickness ^{10 WG} 5/16" 1/4" No. of threads per inch 9
 Pitch of tubes 4 1/4" Working pressure by Rules 161 Manhole compensation: Size of opening in
 shell plate 16" 20" Section of compensating ring 2.8 1/2" 2.4 1/2" 1 5/16" No. of rivets and diameter of rivet holes 38 at 1 1/8"
 Outer row rivet pitch at ends 8" Depth of flange if manhole flanged 3 1/4" 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}
 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
 Number of elements Material of tubes Manufacturers of ^{Tubes}
 Material of headers Tensile strength ^{Steel castings}
 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 22 inclusive for boilers been complied with

The foregoing is a correct description.
 For JOHN G. KIRKLAND & CO. LIMITED.
 Director. Manufacturer.

Dates of Survey ^{During progress of work in shops - -}
 while building ^{During erection on board vessel - - -}
 See MACHINERY REPORT
 Are the approved plans of boiler and superheater forwarded herewith Yes
 (If not state date of approval.)
 Total No. of visits

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These Boilers have been built under Special Survey in accordance with the approved plans & the workmanship & material are of good quality. They are now securely fitted on board.
This Report accompanies Part of the Machinery

Survey Fee charged on Madykeft
 Travelling Expenses (if any)

When applied for.	192
When received.	192

W. Gordon-Mitchell
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 17 APR 1934
 Assigned See Jls. J.E. 57783