

## REPORT ON BOILERS.

No. 43766

WED. JUN. 25 1924

Received at London Office

Date of writing Report 20<sup>th</sup> June 1924 When handed in at Local Office 23.6.1924 Port of GlasgowNo. in Survey held at Glasgow  
Reg. Book.Date, First Survey 9th April, 1923Last Survey 18<sup>th</sup> June 1924(Number of Visits 41)Gross 5444  
Net 3427on the S.S. "Auditor"

Master Glasgow Built at Glasgow By whom built B. Connell & Co Yard No. 399 When built 1924  
 Engines made at Glasgow By whom made Dunsmuir Jackson Engine No. 547 When made 1924  
 Boilers made at Glasgow By whom made do Boiler No. 547 When made 1924  
 Nominal Horse Power 588 Owners J. & F. Harrison Port belonging to Liverpool

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

Manufacturers of Steel Steel Co. of Scotland (Letter for Record S.)  
 Total Heating Surface of Boilers 1419 sq. ft. Is forced draught fitted no Coal or Oil fired coal  
 No. and Description of Boilers One single ended Working Pressure 215  
 Tested by hydraulic pressure to 378 Date of test 10.10.23 No. of Certificate 16358 Can each boiler be worked separately yes  
 Area of Firegrate in each Boiler 51 sq. ft. No. and Description of safety valves to each boiler Double - spring loaded  
 Area of each set of valves per boiler {per Rule 7.71 as fitted 7.94 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 yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 2' 10" Is oil fuel carried in the double bottom under boilers no  
 Smallest distance between shell of boiler and tank top plating yes Is the bottom of the boiler insulated yes  
 Largest internal dia. of boilers 13' 0" Length 10' 6" Shell plates: Material S. Tensile strength 28 1/2 to 32 1/2  
 Thickness 1 1/4" Are the shell plates welded or flanged no Description of riveting: circ. seams {end J.R. inter. yes  
 long. seams T.R.A.B.S. Diameter of rivet holes in {circ. seams 1 3/8" long. seams 1 5/16" Pitch of rivets { 9"  
 Percentage of strength of circ. end seams {plate 66.4 rivets 46.5 Percentage of strength of circ. intermediate seam {plate yes rivets yes  
 Percentage of strength of longitudinal joint {plate 85.4 rivets 90.7 combined yes Working pressure of shell by Rules 216  
 Thickness of butt straps {outer 1 3/32" inner 1 3/32" No. and Description of Furnaces in each Boiler 1 - Morrison  
 Material Steel Tensile strength 26-30 Smallest outside diameter 8' 2" 3/16  
 Length of plain part {top yes bottom yes Thickness of plates {crown 19/32" bottom yes Description of longitudinal joint weld  
 Dimensions of stiffening rings on furnace or c.c. bottom yes Working pressure of furnace by Rules 225  
 End plates in steam space: Material S Tensile strength 26-30 Thickness 1 1/4" Pitch of stays 18 1/4"  
 How are stays secured J.N. Working pressure by Rules 219  
 Tube plates: Material {front S. back S. Tensile strength { 26-30 Thickness { 1 3/32" 27/32"  
 Mean pitch of stay tubes in nests 9 1/2" Pitch across wide water spaces 14" Working pressure {front 224 back 227  
 Girders to combustion chamber tops: Material Steel Tensile strength yes Depth and thickness of girder  
 at centre 9" x 2" Length as per Rule 30 5/8 Distance apart 9 1/2" No. and pitch of stays  
 in each 30 7 3/8 Working pressure by Rules 242 Combustion chamber plates: Material S  
 Tensile strength 26-30 Thickness: Sides 1 1/16" Back 1 1/16" Top 1 1/16" Bottom 1 3/16"  
 Pitch of stays to ditto: Sides 8 1/2" x 7 7/8" Back 8 7/8" x 7 7/8" Top 9 1/2" x 7 7/8" Are stays fitted with nuts or riveted over nuts  
 Working pressure by Rules 283 Front plate at bottom: Material 1 3/32" Tensile strength 26-30  
 Thickness 1 3/32" Lower back plate: Material S Tensile strength 26-30 Thickness 1 5/16"  
 Pitch of stays at wide water space 14 3/4" x 8 7/8" Are stays fitted with nuts or riveted over nuts  
 Working Pressure 216 Main stays: Material S. Tensile strength 28-32  
 Diameter {At body of stay, 2 7/8" No. of threads per inch 6 Area supported by each stay 18 1/4" x 18 1/4"  
 {Over threads yes Working pressure by Rules 217 Screw stays: Material S. Tensile strength 26-30  
 Diameter {At turned off part, 1 3/4" No. of threads per inch 9 Area supported by each stay 9 1/2" x 7 3/8"  
 {Over threads yes

If not, state whether, and when, one will be sent?

Is a Report also sent on the Hull of the Ship?

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Working pressure by Rules 216 Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, or Over threads 2"  
No. of threads per inch 9 Area supported by each stay 94 1/4" Working pressure by Rules 216  
Tubes; Material Iron External diameter { Plain 3" Stay 3" Thickness { 7 L.S.G. 3/8 No. of threads per inch 9  
Pitch of tubes 4 1/4" Working pressure by Rules 300 Manhole compensation: Size of opening in shell plate 20 1/4" x 16 1/4" Section of compensating ring 36 1/2" x 30 3/4" x 1 5/8" No. of rivets and diameter of rivet holes 36 - 1 3/8"  
Outer row rivet pitch at ends 9" 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 ✓ 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 \_\_\_\_\_ 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,

(IN LIQUIDATION)

Manufacturer.

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

See Machinery Report attached

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

Total No. of visits 41

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

*This boiler has been built under special survey in accordance with the approved plan, and the Society's Rules and requirements. The materials and workmanship are good, and the boiler has been satisfactorily fitted on board the vessel.*

Survey Fee ... .. £ : :  
Travelling Expenses (if any) £ : :

When applied for, 192  
When received, 192

*Jas. Cairns,*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 24 JUN 1924

Assigned See attached machinery report.



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