

REPORT ON BOILERS.

No. 43766

WED. JUN. 25 1924

Received at London Office

Date of writing Report 20 June 1924 When handed in at Local Office 23.6.1924 Port of Glasgow

No. in Survey held at Glasgow Date, First Survey 9th April, 1923 Last Survey 13 June 1924

Reg. Book. S.S. "Auditor" (Number of Visits 41) Tons {Gross 5444 Net 3427}

Master _____ 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 538 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 373 Date of test 10.10.23 No. of Certificate 16353 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 no

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 no Is the bottom of the boiler insulated no

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. no}

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 no rivets no}

Percentage of strength of longitudinal joint {plate 85.4 rivets 90.7 combined no} 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 3'-2" 3/16"

Length of plain part {top no bottom no} Thickness of plates {crown 19/32" bottom no} Description of longitudinal joint weld

Dimensions of stiffening rings on furnace or c.c. bottom no 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 D.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 no 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 3 x 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" or Over threads no} No. of threads per inch 6 Area supported by each stay 18 1/4" x 18 1/4"

Working pressure by Rules 217 Screw stays: Material S Tensile strength 26-30

Diameter {At turned off part, 1 3/4" or Over threads no} No. of threads per inch 9 Area supported by each stay 9 1/2" x 7 3/8"

If not, state whether, and when, one will be sent? Is a Report also sent on the Hull of the Ship? [Im. 122. - Copyable Ink.]



Working pressure by Rules 216 Are the stays drilled at the outer ends no Margin stays: Diameter ^{At turned off part,} 2" 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.C.} 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 - -} See Machinery Report attached 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 41 Jas. Adams

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 £ : : When applied for, _____ 192
 Travelling Expenses (if any) £ : : When received, _____ 192

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

Committee's Minute GLASGOW 24 JUN 1924

Assigned See attached machinery report.

