

REPORT ON BOILERS.

No. 77633

Date of writing Report March 11th 1924 When handed in at Local Office March 11th 1924 Port of Newcastle-on-Tyne

Received at London Office WED. 12 MAR. 1924

No. in Reg. Book. 40370 Survey held at Newcastle-on-Tyne Date, First Survey Oct 11th 1923 Last Survey March 4th 1924

on the S.S. "Oriskany" (Number of Visits 33) Gross 1643.7 Tons Net 838.14

Master Built at Mallsea By whom built Swan Hunter and Wm Richardson Ltd Yard No. 1127 When built 1924

Engines made at Mather By whom made Swan Hunter and Wm Richardson Ltd Engine No. 1166 When made 1924

Boilers made at Mather By whom made do Boiler No. 1166 When made 1924

Nominal Horse Power 305 Owners Swan Hunter & Wm Richardson Ltd Port belonging to Montreal

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Steel Co of Scotland, John Aird & Co, Leighton Patent Steel Co (Letter for Record S)

Total Heating Surface of Boilers 4600 sq ft Is forced draught fitted yes Coal or Oil fired oil only

No. and Description of Boilers 2 SB 2 Angle Ended Horizontal Multitubular Working Pressure 200 lbs

Tested by hydraulic pressure to 320 Date of test 25.1.24 No. of Certificate 9805 Can each boiler be worked separately yes

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler 2 Spring Loaded Patent High Lift

Area of each set of valves per boiler { per Rule 10.82 as fitted 11.88 Pressure to which they are adjusted 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 6'-0" Is oil fuel carried in the double bottom under boilers no

Smallest distance between shell of boiler and tank top plating 21" Is the bottom of the boiler insulated yes

Largest internal dia. of boilers 14'-3 3/16" Length 11'-6" Shell plates: Material Steel Tensile strength 30-34 tons

Thickness 1 3/32" Are the shell plates welded or flanged no Description of riveting: circ. seams { end double Riv Lap inter. none

long. seams S.B.S. Triple riveted Diameter of rivet holes in { circ. seams 1 3/8" long. seams 1 9/16" Pitch of rivets { 4.344 8 5/16"

Percentage of strength of circ. end seams { plate 68.68 rivets 42.70 Percentage of strength of circ. intermediate seam { plate rivets

Percentage of strength of longitudinal joint { plate 85.31 rivets 89.32 combined 88.48 Working pressure of shell by Rules 200 lbs

Thickness of butt straps { outer 5/16" inner 1/16" No. and Description of Furnaces in each Boiler 3 Cf. Leighton Gouley Stephen

Material steel Tensile strength 26-30 tons Smallest outside diameter 41 13/16"

Length of plain part { top bottom Thickness of plates { crown 1 1/32" bottom 3/32" Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 206 lbs

End plates in steam space: Material steel Tensile strength 26-30 tons Thickness 1 1/4" Pitch of stays 19 1/2" x 18 1/8"

How are stays secured double nuts Working pressure by Rules 201 lbs

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

Mean pitch of stay tubes in nests 9 3/8" Pitch across wide water spaces 13 1/2" Working pressure { front 209 lbs back 270 "

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

at centre 9 3/8" x 1 1/4" Length as per Rule 31 1/32" Distance apart 9" No. and pitch of stays

in each 2-9 3/4" Working pressure by Rules 200 lbs Combustion chamber plates: Material steel

Tensile strength 26-30 tons Thickness: Sides 3/32" Back 21" Top 23/32" Bottom 23/32"

Pitch of stays to ditto: Sides 9 1/2" x 8" Back 9" x 8" Top 9 3/4" x 9" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 206 lbs Front plate at bottom: Material steel Tensile strength 26-30 tons

Thickness 1" Lower back plate: Material steel Tensile strength 26-30 tons Thickness 15/16"

Pitch of stays at wide water space 14 5/8" x 8" Are stays fitted with nuts or riveted over nuts

Working Pressure 260 lbs Main stays: Material steel Tensile strength 28-32 tons

Diameter { At body of stay, 3 3/8" No. of threads per inch 6 Area supported by each stay 19 3/4" x 18 1/2" = 365 sq in

Working pressure by Rules 201 lbs Screw stays: Material steel Tensile strength 26-30 tons

Diameter { At turned off part, 1 5/8" No. of threads per inch 9 Area supported by each stay 96 sq in

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Working pressure by Rules 250 Are the stays drilled at the outer ends Yes Margin stays: Diameter { At turned off part, 1 3/4" or Over threads 1 3/4"

No. of threads per inch 9 Area supported by each stay 89.0" Working pressure by Rules 203.4

Tubes: Material Iron External diameter { Plain 2 1/2" Stay 2 1/2" Thickness { 9. W.G. No. of threads per inch 9

Pitch of tubes 3 3/4" x 3 3/4" Working pressure by Rules 214.0 Manhole compensation: Size of opening in shell plate 20" x 16" Section of compensating ring 10 3/4" x 1 7/32" No. of rivets and diameter of rivet holes 32 x 1 1/2"

Outer row rivet pitch at ends 10 1/4" Depth of flange if manhole flanged 2 3/4" Steam Dome: Material Iron

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 -

How connected to shell - Inner radius of crown - Working pressure by Rules -

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 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 Yes

The foregoing is a correct description, Yes

G. J. J. J. J. Manufacturer.

Dates of Survey { During progress of work in shops From October 11th 1923 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Yes

{ During erection on board vessel March 7th 1924 Total No. of visits 33

see report on engines

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These steel boilers have been examined during construction, and the materials and workmanship are good, and in accordance with the requirements of the rules & the approved plan. On completion they were submitted to a hydraulic test with satisfactory results and were again seen under steam, when the safety valves were adjusted to the working pressure. They are therefore eligible in our opinion to be fitted in a clamped ship.

Survey Fee ... £ see other report When applied for, 192

Travelling Expenses (if any) £ report When received, 192

Maurice Ritson & L. G. Shallcross
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. MAR 14 1924

Assigned -

F.O. above 150 T.