

## REPORT ON BOILERS.

No. 96584

8.31.

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NEWCASTLE-ON-TYNE

Date of writing Report 17/8/38 Port of 17/8/38

No. in Reg. Book. Survey held at Wallsend Date, First Survey 1 Dec 1937 Last Survey 9 Aug 1938

on the Steam Tug Vessel "LA CARRIERE" (Number of Visits ) Gross 5685 Tons Net 3231

Master Built at Wallsend By whom built Swan Hunter & Wigham Richardson Ltd Yard No. 1555 When built 1938

Engines made at Wallsend By whom made Wallsend Shipway & Eng Co. Ltd. Engine No. 933 When made 1938

Boilers made at Wallsend By whom made Wallsend Shipway & Eng Co. Ltd. Boiler No. 933 When made 1938

Nominal Horse Power 590 Owners Trinidad Leaseholds Limited Port belonging to London

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

Manufacturers of Steel Steel Co of Scotland, Colville, Ld. (Letter for Record S)

Total Heating Surface of Boilers 8563 sq ft 8565 Is forced draught fitted Yes Coal or Oil fired Oil

No. and Description of Boilers Three single ended multitubular Working Pressure 220 lbs

Tested by hydraulic pressure to 380 lbs Date of test 17-5-38 No. of Certificate 776 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler Two spring loaded, improved high lift

Area of each set of valves per boiler {per Rule 15'1" as fitted 7'95" Pressure to which they are adjusted 225 lbs 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 Forward Boilers only

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 16'-2 7/8" Length 11'-9" Shell plates: Material Steel Tensile strength 29-33 tons L.D.R.

Thickness 1 9/16" Are the shell plates welded or flanged No Description of riveting: circ. seams {end 1 1/2" inter. 1 1/2" long. seams T.R. 50 lb Straps Diameter of rivet holes in {circ. seams 1 1/2" long. seams 1 1/2" Pitch of rivets 11"

Percentage of strength of circ. end seams {plate 43.25 rivets 85.5 Percentage of strength of circ. intermediate seam {plate - rivets -

Percentage of strength of longitudinal joint {plate 85.5 rivets 86.0 combined 88.0 Working pressure of shell by Rules 222 lbs

Thickness of butt straps {outer 1 3/16" inner 1 5/16" No. and Description of Furnaces in each Boiler Three corrugated (Seignton)

Material Steel Tensile strength 26-30 tons Smallest outside diameter 47 1/2"

Length of plain part {top - bottom - Thickness of plates {crown 23/32" bottom 23/32" Description of longitudinal joint Weld

Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 222 lbs

End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 1 13/32" Pitch of stays 22 1/2" x 18"

How are stays secured Double nuts Working pressure by Rules 224 lbs

Tube plates: Material {front Steel back Steel Tensile strength {26-30 tons Thickness {27/32"

Mean pitch of stay tubes in nests 11 7/8" x 8 1/2" Pitch across wide water spaces 14" Working pressure {front 233 lbs back 238 lbs

Girders to combustion chamber tops: Material Steel Tensile strength 29-33 tons Depth and thickness of girder

at centre 9 3/4" x 2 @ 3/4" Length as per Rule 34 1/2" Distance apart 8 1/2" No. and pitch of stays

in each 3 @ 8 1/8" Working pressure by Rules 226 lbs Combustion chamber plates: Material Steel

Tensile strength 26-30 tons Thickness: Sides 11/16" Centre box 3/4" Back 1/16" Top 3/4" Bottom 3/4"

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

Working pressure by Rules 225 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 15 1/2" x 8 1/4" Are stays fitted with nuts or riveted over Nuts

Working Pressure 234 lbs Main stays: Material Steel Tensile strength 28-32 tons

Diameter {At body of stay, 3 1/2" No. of threads per inch 6 Area supported by each stay 405 sq in

Working pressure by Rules 234 lbs Screw stays: Material Steel Tensile strength 26-30 tons

Diameter {At turned off part, 1 3/4" No. of threads per inch 9 Area supported by each stay 73.125 sq in

Working pressure by Rules 248 lbs Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 1 7/8" or Over threads 1 7/8" ✓  
No. of threads per inch 9 Area supported by each stay 98 □" Working pressure by Rules 224 lbs  
Tubes: Material S.O. steel External diameter { Plain 3" Stay 3" Thickness { 8/16" No. of threads per inch 9  
Pitch of tubes 4 5/8" x 4 1/4" Working pressure by Rules 236 lbs Manhole compensation: Size of opening in shell plate 20" x 16" Section of compensating ring 14" x 1 9/16" No. of rivets and diameter of rivet holes 36 x 1 1/2"  
Outer row rivet pitch at ends 11" Depth of flange if manhole flanged 3 9/16" 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 Smoke Tube Manufacturers of { Tubes Tubes Limited Steel forgings The Superheaters Co Ltd Steel castings Hopkinson & Co Ltd  
Number of elements — Material of tubes S.O. steel Internal diameter and thickness of tubes 16" m x 2 1/2" m  
Material of headers Steel Tensile strength 26-30 tons Thickness 5/8" minimum 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 1.22 □" Are the safety valves fitted with easing gear Yes Working pressure as per Rules 220 lbs Pressure to which the safety valves are adjusted 225 lbs Hydraulic test pressure: tubes 1000 lbs forgings and castings 660 lbs and after assembly in place 440 lbs 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

FOR THE WALLSEND & PARTNERS ENGINEERING CO. LIMITED.

The foregoing is a correct description,  
J. W. Thompson Manufacturer.

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

Is this Boiler a duplicate of a previous case no If so, state Vessel's name and Report No. —

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been built under Special Survey, in accordance with the Rules and approved Plan, the materials and workmanship are good: on completion they were tested by hydraulic pressure to 380 lbs per square inch and found tight and satisfactory; they have been fitted on board in an efficient manner, tried under working conditions and found in order.

Survey Fee ... .. £ Charged on Machinery Rpt When applied for, 19  
Travelling Expenses (if any) £ — When received, 19

J. S. Selles  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 2 SEP 1938

Assigned See No. 96584