

## REPORT ON BOILERS.

No. 98510

Received at London Office MAY 20 1940

Date of writing Report 7-5-1940 When handed in at Local Office 8/5/1940 Port of NEWCASTLE-on-TYNE

No. in Survey held at Willington Quay on Tyne Date, First Survey 29-2-40 Last Survey 24-4-1940

6627 on the Twin Screw Steel Ferry "Collingwood" (Number of Visits 6) Tons Gross 89.8  
Net 39.06

Built at Willington Quay on Tyne By whom built Clelands (Successors) Ltd. Yard No. 51 When built 1940

Engines made at Newbury By whom made Plenty & Son, Ltd. Engine No. 2775 When made 1940

Boilers made at Stockton By whom made Stockton Chemical Eng<sup>g</sup> & Riley Boilers, Ltd. Boiler No. 6396 When made 1940

Nominal Horse Power 37.28 Owners Tyne Improvement Commissioners Port belonging to North Shields

MULTITUBULAR BOILERS—MAIN, ~~AUXILIARY~~, ~~OR DONKEY~~. As per Middlesbro' Report No. 16425 dated 19-10-39

Manufacturers of Steel Appleby Frodingham Steel Co. Ltd. (Letter for Record S.)

Total Heating Surface of Boilers 890 sq. ft. Is forced draught fitted No Coal or Oil fired Coal

No. and Description of Boilers One, Single Ended. Working Pressure 130 lbs.

Tested by hydraulic pressure to 245 lbs. Date of test 13-10-39 No. of Certificate 6949 Can each boiler be worked separately ✓

Area of Firegrate in each Boiler 29½ sq. ft. No. and Description of safety valves to each boiler 2, Spring Loaded.

Area of each set of valves per boiler per Rule  
as fitted 7.95 sq. ins. Pressure to which they are adjusted 130 lbs Are they fitted with easing gear ✓

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler ✓

Smallest distance between boilers and bunkers 12" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating ✓ Is the bottom of the boiler insulated No

Largest internal dia. of boilers 10'-0" Length 10'-0" Shell plates: Material Steel Tensile strength 24/33

Thickness 5/8" Are the shell plates welded or flanged No Description of riveting: circ. seams end D.R.  
inter. ✓

Long. seams T.R.D.B.S. Diameter of rivet holes in circ. seams 15/16"  
long. seams 13/16" Pitch of rivets 3"  
5"

Percentage of strength of circ. end seams plate 68.75  
rivets 56.3 Percentage of strength of circ. intermediate seam plate ✓  
rivets ✓

Percentage of strength of longitudinal joint plate 83.75  
rivets 98.7  
combined ✓

Thickness of butt straps outer 17/32"  
inner 21/32" No. and Description of Furnaces in each Boiler 2, Morison Corrugated.

Material Steel Tensile strength 26/30 Smallest outside diameter 35"

Length of plain part top ✓ Thickness of plates crow 3/8"  
bottom ✓ Description of longitudinal joint weld.

Dimensions of stiffening rings on furnace or c.c. bottom ✓

End plates in steam space: Material Steel Tensile strength 26/30 Thickness 27/32" Pitch of stays 17" x 11½"

How are stays secured D. Nuts & Washers.

Tube plates: Material front Steel Tensile strength 26/30 Thickness 27/32"  
back Steel 21/32"

Lean pitch of stay tubes in nests 10½" Pitch across wide water spaces 14"

Girders to combustion chamber tops: Material Steel Tensile strength 26/32 Depth and thickness of girder

centre 6½" 2 @ 9/8" Length as per Rule 28" Distance apart 8½" No. and pitch of stays

each 2 @ 8½" Combustion chamber plates: Material Steel

Tensile strength 26/30 Thickness: Sides 9/16" Back 17/32" Top 9/16" Bottom 11/16"

Pitch of stays to ditto: Sides 9½" x 8½" Back 9" x 8" Top 8½" x 8½" Are stays fitted with nuts or riveted over Nuts.

Front plate at bottom: Material Steel Tensile strength 26/30

Thickness 27/32" Lower back plate: Material Steel Tensile strength 26/30 Thickness 27/32"

Pitch of stays at wide water space 14" x 9" Are stays fitted with nuts or riveted over Nuts

Main stays: Material Steel Tensile strength 26/32"

Diameter At body of stay, 2½" No. of threads per inch 6

new stays: Material Steel Tensile strength 26/30

Diameter At turned off part, 1 3/8" No. of threads per inch 9



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Are the stays drilled at the outer ends ☒ Margin stays: Diameter { At turned off part, or Over threads 1 1/2"

No. of threads per inch 9

Tubes: Material S.D. Steel External diameter { Plain 3 1/4" Stay 3 1/4" Thickness { 9 L W 4 5/16" No. of threads per inch 9

Pitch of tubes 4 3/8" x 4 1/4" Manhole compensation: Size of opening in shell plate 20" x 16" Section of compensating ring 7" x 1 1/8" No. of rivets and diameter of rivet holes 40 - 1 1/16"

Outer row rivet pitch at ends 6" Depth of flange if manhole flanged None Steam Dome: Material None

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 \_\_\_\_\_ Thickness of crown \_\_\_\_\_ No. and diameter of stays \_\_\_\_\_ Inner radius of crown \_\_\_\_\_

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 None Manufacturers of { Tubes \_\_\_\_\_ Steel forgings \_\_\_\_\_ 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 \_\_\_\_\_

Pressure to which the safety valves are adjusted \_\_\_\_\_ Hydraulic test pressure: \_\_\_\_\_

tubes \_\_\_\_\_ forgings and 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 Yes.

The foregoing is a correct description,

Manufacturer.

Dates of Survey { During progress of work in shops - - ☒ Are the approved plans of boiler and superheater forwarded herewith 31-5-39. (If not state date of approval.)

while building { During erection on board vessel - - - 29/2/40, 15/3, 1/4, 10/4, 15/4, 24/4/40 Total No. of visits 6

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.) This boiler has now been fitted satisfactorily aboard this vessel, examined under steam + its safety valves adjusted to the approved working pressure.

Survey Fee ... £ : When applied for, 19

Travelling Expenses (if any) £ : When received, 19

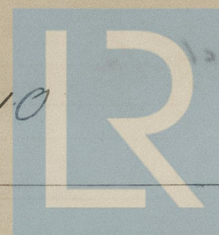
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE 4 JUN 1940

Assigned

See Nwc. J.E. 98510



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