

Received at London Office 31 MAR 1925

Date of writing Report 27/3/1925 When handed in at Local Office 28/3/1925 Port of Middlesbrough

No. in Survey held at Stockton-on-Tees Date, First Survey 20/12/24 Last Survey 27/3/1925

on the (Number of Visits 14) Tons {Gross Net

Master Built at Chester By whom built J. Cuckton & Co Yard No. When built

Engines made at Newbury By whom made Plenty & Son Engine No. When made

Boilers made at Stockton By whom made Messrs Riley Bros Ltd Boiler No. 5582 When made 1925

Nominal Horse Power Owners Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel David Colville & Sons Ltd. (Letter for Record (S))

Total Heating Surface of Boilers 1480 sq ft Is forced draught fitted No Coal or Oil fired coal

No. and Description of Boilers One Single End Navy type. 1 B. Working Pressure 180 lbs

Tested by hydraulic pressure to 320 lbs Date of test 25-3-25 No. of Certificate 6445 Can each boiler be worked separately No

Area of Firegrate in each Boiler 47.6 sq ft No. and Description of safety valves to each boiler two, direct spring

Area of each set of valves per boiler {per Rule 9.48 sq ft as fitted 9.82 sq ft Pressure to which they are adjusted 185 lb Are they fitted with easing gear No

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 7'0" 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 9'4" Length 19'9" Shell plates: Material Steel Tensile strength 28 to 32 tons

Thickness 27/32" Are the shell plates welded or flanged No Description of riveting: circ. seams {end Lat D R inter. 3 1/4" 6 1/8"

long. seams {Double butt straps Treble Riveted 5 Rivets in fillet Diameter of rivet holes in {circ. seams 55/64 1 3/4" long. seams 55/64 1 3/64 Pitch of rivets {plate 67.78 rivets 51.5 Percentage of strength of circ. intermediate seam {plate rivets 85.97 86.39 89.23 Working pressure of shell by Rules 190 lbs

Percentage of strength of longitudinal joint {plate rivets combined Thickness of butt straps {outer 13 1/4 x 2 1/32 inner 13 1/4 x 2 5/32 No. and Description of Furnaces in each Boiler Two Deighton's

Material Steel Tensile strength 26-30 tons Smallest outside diameter 45 3/16"

Length of plain part {top bottom Thickness of plates {crown 19/32 bottom 19/32 Description of longitudinal joint weld.

Dimensions of stiffening rings on furnace c.c. bottom See Plan Working pressure of furnace by Rules 191 lbs

End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 19/16" Pitch of stays 17 x 19 1/2 tubes

How are stays secured Double Nuts Working pressure by Rules 220 lbs

Tube plates: Material {front Steel Tensile strength 26/20 tons Thickness 15/16" back Steel Tensile strength 26/20 tons Thickness 27/32"

Mean pitch of stay tubes in nests 11 9/16" Pitch across wide water spaces 13" x 4 5/8" Working pressure {front 229 lbs back 192 lbs

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

at centre 8" x 1 1/4" Length as per Rule 48 5/16 50" Distance apart 7 1/4" No. and pitch of stays

in each 4 c 9 1/4" Working pressure by Rules 68 lbs Combustion chamber plates: Material steel

Tensile strength 26/30 tons Thickness: Sides 21/32 Back Top 21/32 Bottom 15/16"

Pitch of stays to ditto: Sides 8 3/4 x 9 1/4 Back Top 7 1/4 x 9 1/4 Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 185 lbs Front plate at bottom: Material Steel Tensile strength 26-30 tons

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

Pitch of stays at wide water space Are stays fitted with nuts or riveted over

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

Diameter {At body of stay 3 1/8" No. of threads per inch 6 Area supported by each stay 327 sq in

Working pressure by Rules 225 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 80.94 sq in

Working pressure by Rules 188 lbs Are the stays drilled at the outer ends NO Margin stays: Diameter { At turned off part, ☒ or Over threads ☒ No. of threads per inch ☒ Area supported by each stay ☒ Working pressure by Rules ☒
Tubes; Material S.D. Steel External diameter { Plain 8 1/2" Stay 3 1/2" Thickness { 3/16" 3/8" No. of threads per inch 9
Pitch of tubes 4 5/8" x 4 5/8" Working pressure by Rules 308 lbs Stay Manhole compensation: Size of opening in shell plate 20" x 16" Section of compensating ring 8" x 1" McAlister No. of rivets and diameter of rivet holes 42 - 1 1/16"
Outer row rivet pitch at ends 7" Depth of flange if manhole flanged ☒ 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 _____ 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 FOR

RILEY BROS. (ENGINEERS) LIMITED.
The foregoing is a correct description,

C. H. Shields **SECRETARY,** Manufacture

Dates of Survey { During progress of work in shops - - - Dec. 20, Jan. 20, 26, 29, Feb. 6, 13, 19, 27 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
while building { During erection on board vessel - - - Mar. 2, 10, 12, 20, 25, 27 Total No. of visits 11

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

This boiler has been constructed under special survey; is of good material & workmanship and on completion was tested by hydraulic pressure with satisfactory results.

Survey Fee £ 9 : 18 : - When applied for, MONTHLY A/C.
Travelling Expenses (if any) £ : : When received, 192

W. A. Roberts

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute _____

Assigned See Mack's rpt.



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Foundation