

Rpt. 5a.

REPORT ON BOILERS

No. 12664

3 AUG 1926
LONDON

Received at London Office

Date of writing Report 6/5/1926 When handed in at Local Office 6/5/1926 Port of Middlesbrough

No. in Reg. Book. Stockton Date, First Survey 14.1.26 Last Survey 5/5/1926

on the Single End Boiler for Messrs Short Bros. Sunderland (Number of Visits 16) Tons {Gross Net

Master _____ Built at _____ By whom built _____ Yard No. _____ When built _____

Engines made at _____ By whom made _____ Engine No. _____ When made _____

Boilers made at Stockton By whom made Messrs Riley Bros Ltd Boiler No. 5653 When made 1926

Nominal Horse Power _____ Owners _____ Port belonging to _____

MULTITUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Wm Beardmore & Co. Ltd. South Duffield Steel & Iron Co. Ltd. (Letter for Record (S) ✓)
Steel Coy of Scotland. Cargo & East Dorn. Coy.

Total Heating Surface of Boilers 1330 sq ft Is forced draught fitted _____ Coal or Oil fired _____

No. and Description of Boilers One Single End 1SB ✓ Working Pressure 120 lbs ✓

Tested by hydraulic pressure to 230 lbs ✓ Date of test 5-5-26 No. of Certificate 6508 ✓ Can each boiler be worked separately _____

Area of Firegrate in each Boiler 40 sq ft No. and Description of safety valves to each boiler _____
Area of each set of valves per boiler {per Rule 12.380" as fitted 14.114" Pressure to which they are adjusted _____ 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 or uptakes and bunkers or woodwork _____ Is oil fuel carried in the double bottom under boilers _____

Smallest distance between shell of boiler and tank top plating _____ Is the bottom of the boiler insulated _____

Largest internal dia. of boilers 12'-0" ✓ Length 126" ✓ Shell plates: Material Steel ✓ Tensile strength 28-32 tons ✓
Thickness 11/16" ✓ Are the shell plates welded or flanged no ✓ Description of riveting: circ. seams {end DR. LAP. ✓ inter ✓

long. seams {Double Butt Straps ✓ Treble Riveted ✓ 4 rivets in Pitch ✓ Diameter of rivet holes in {circ. seams 15/16" ✓ long. seams 13/16" ✓ Pitch of rivets {3" ✓ 5 3/8" ✓

Percentage of strength of circ. end seams {plate 68.66 rivets 54.6 Percentage of strength of circ. intermediate seam {plate 84.89 rivets 86.3 combined 91.35 Working pressure of shell by Rules 120 lbs ✓

Thickness of butt straps {outer 13" x 17/32" ✓ inner 13" x 21/32" ✓ No. and Description of Furnaces in each Boiler Two Plain ✓

Material Steel ✓ Tensile strength 26-30 tons ✓ Smallest outside diameter 45" ✓
Length of plain part {top 77.8" ✓ bottom 85.25" ✓ Thickness of plates {crown 21/32" ✓ bottom ✓ Description of longitudinal joint weld ✓

Dimensions of stiffening rings on furnace or c.c. bottom _____ Working pressure of furnace by Rules 118 lbs ✓
End plates in steam space: Material Steel ✓ Tensile strength 26-30 tons ✓ Thickness 25/32" ✓ Pitch of stays 16 1/2" 13 to 15 1/2" tubes ✓

How are stays secured Double nuts and loose washers 8" x 9/16" ✓ Working pressure by Rules 120 lbs ✓
Tube plates: Material {front Steel ✓ back Steel ✓ Tensile strength {26-30 tons ✓ 26-30 tons ✓ Thickness {25/32" ✓ 5/8" ✓

Mean pitch of stay tubes in nests 10.27" ✓ Pitch across wide water spaces 14 1/4" x 8 3/4" ✓ Working pressure {front 149 lbs ✓ back 130 lbs ✓

Girders to combustion chamber tops: Material Steel ✓ Tensile strength 28-32 tons ✓ Depth and thickness of girder at centre 7" x 1 1/4" ✓ Length as per Rule 31" ✓ Distance apart 8 1/2" ✓ No. and pitch of stays in each 2 @ 9 1/2" ✓ Working pressure by Rules 128 lbs ✓ Combustion chamber plates: Material Steel ✓

Tensile strength 26-30 tons ✓ Thickness: Sides 9/16" ✓ Back 19/32" ✓ Top 9/16" ✓ Bottom 1 1/16" ✓
Pitch of stays to ditto: Sides 9 1/2" x 8 1/2" ✓ Back 10" x 9 3/4" ✓ Top 9 1/2" x 8 1/2" ✓ Are stays fitted with nuts or riveted over nuts ✓

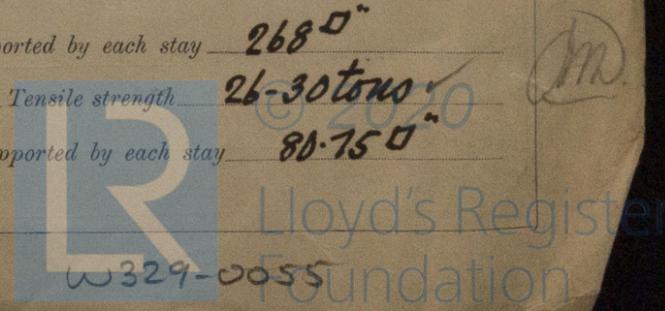
Working pressure by Rules 124 lbs ✓ Front plate at bottom: Material Steel ✓ Tensile strength 26-30 tons ✓
Thickness 25/32" ✓ Lower back plate: Material Steel ✓ Tensile strength 26-30 tons ✓ Thickness 25/32" ✓

Pitch of stays at wide water space 14 1/4" x 9 1/4" ✓ Are stays fitted with nuts or riveted over nuts ✓
Working Pressure 166 lbs ✓ Main stays: Material Steel ✓ Tensile strength 28-32 tons ✓

Diameter {At body of stay, 2 1/4" ✓ or 2 1/4" ✓ Over threads _____ No. of threads per inch 6 ✓ Area supported by each stay 268 sq in ✓

Working pressure by Rules 129 lbs ✓ Screw stays: Material Steel ✓ Tensile strength 26-30 tons ✓

Diameter {At turned off part, 1 3/8" ✓ or _____ Over threads _____ No. of threads per inch 9 ✓ Area supported by each stay 80.75 sq in ✓



Working pressure by Rules 125 lbs Are the stays drilled at the outer ends NO ✓ Margin stays: Diameter ^{At turned off part.} 15/8 ✓
 No. of threads per inch 9 ✓ Area supported by each stay 118.2 sq" Working pressure by Rules 128 lbs
 Tubes: Material Iron ✓ External diameter ^{Plain} 3 3/4 ✓ ^{Stay} 3 ✓ Thickness 8 W G ✓ 5/16 ✓ No. of threads per inch 9 ✓
 Pitch of tubes 4 1/2" x 4 3/8" ✓ Working pressure by Rules 5169. P 230 lbs Manhole compensation: Size of opening in
 shell plate 16" x 20" ✓ Section of compensating ring 7" x 157 MC ✓ No. of rivets and diameter of rivet holes 40 - 15/16 ✓
 Outer row rivet pitch at ends 6" ✓ Depth of flange if manhole flanged ✓ 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} _____
 Internal diameter _____ Working pressure by Rules _____ Thickness of crown _____ Rivets _____
 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} _____
 Number of elements _____ Material of tubes _____ ^{Steel castings} _____
 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. (BOILERMAKERS) LIMITED.
 The foregoing is a correct description,
J. H. Shields SECRETARY, Manufacturer.

Dates of Survey ^{During progress of} Jan 14-20-29 Feb 5-12-19-26 Mar 2-12-17-25 Are the approved plans of boiler and superheater forwarded herewith Yes ✓
^{while} 29 Apr 9-21-28 May 5 (If not state date of approval.)
^{building} ^{During erection on} _____ Total No. of visits 16
^{board vessel - - -} _____

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
 This boiler is a duplicate of builders No 5597. Rft No. 12423.
 This boiler has been constructed under
 Special Survey: is of good material and
 workmanship. On completion was tested
 by hydraulic pressure with satisfactory
 results.

Survey Fee £ 8 : 18 : - } When applied for, 192
 Travelling Expenses (if any) £ : : } When received, 192
 MONTHLY A/c.

W. H. Roberts
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 6 AUG 1921
 Assigned See Sd J. E. Rft No 29300

