

Rpt. 5a.

Pack

REPORT ON BOILERS.

Slid rpt No 29118.

Molt. No. 12344

Received at London Office 19 DEC 1925

Date of writing Report 8/5/1925 When handed in at Local Office 1925 Port of Middlesbrough

No. in Reg. Book. Stockton-on-Tees Date, First Survey 10th March Last Survey 8/5/1925

on the "Sylvafield" (Number of Visits 5569-10 / 5570-13) Gross Tons 5709 Net Tons 3392

Master Sur Jachaing & Sons Built at Sunderland By whom built W. Sanford & Sons Yard No. 693 When built 1925

Engines made at Sunderland By whom made W. Sanford & Sons Engine No. 583 When made 1925

Boilers made at Stockton By whom made Messrs Riley Bros Ltd. Boiler Nos 5569 / 5570 When made 1925

Nominal Horse Power _____ Owners Huntingdonson Port belonging to Newcastle

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

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

Total Heating Surface of Boilers each 2 x 1203 ft = 2406 ft Is forced draught fitted No Coal or Oil fired OIL

No. and Description of Boilers Two Single Ended Working Pressure 120 lbs

Tested by hydraulic pressure to 230 lbs Date of test 8-5-25 No. of Certificate 6460 Can each boiler be worked separately YES

Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler 2 Spring Valves

Area of each set of valves per boiler per Rule 13.3 / as fitted 14.14 Pressure to which they are adjusted 120 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 23" Is oil fuel carried in the double bottom under boilers NO

Smallest distance between shell of boiler and tank top plating 28" Boilers on upper deck Is the bottom of the boiler insulated YES

Largest internal dia. of boilers 124.75" Length 11'-6" Shell plates: Material Steel Tensile strength 28-32 tons

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

long. seams { Double Butt Straps } / { Double Riveted } / { Three Rivets in Fitch } Diameter of rivet holes in circ. seams 15/16" / long. seams 13/16" Pitch of rivets 3" x 6" / 4 1/2"

Percentage of strength of circ. end seams plate 68.66 / rivets 45.2 Percentage of strength of circ. intermediate seam plate / rivets

Percentage of strength of longitudinal joint plate 81.9 / rivets 85.3 / combined 92.4 Working pressure of shell by Rules 120 lbs.

Thickness of butt straps outer 8 3/4" x 1/2" / inner 8 3/4" x 5/8" No. and Description of Furnaces in each Boiler Two Dightons

Material steel Tensile strength 26-30 tons Smallest outside diameter 33.75"

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

Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 156 lbs

End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 13/16" Pitch of stays 19 x 13/4" to tubes / 12 1/4"

How are stays secured Double Nuts & loose washers 8" x 3/4" Working pressure by Rules 121 lbs

Tube plates: Material front Steel / back steel Tensile strength 26-30 tons / 26-20 tons Thickness 13/16" / 1 1/16"

Mean pitch of stay tubes in nests 9.58 Pitch across wide water spaces 14 1/2" x 7 1/4" Working pressure front 123 lbs / back 182

Girders to combustion chamber tops: Material Steel Tensile strength 28-32 tons Depth and thickness of girder at centre 6 1/2" x 1 1/2" Length as per Rule 30" Distance apart 10" No. and pitch of stays in each 2 c 10" Working pressure by Rules 125 lbs Combustion chamber plates: Material steel

Tensile strength 26-30 tons Thickness: Sides 19/32" / Back 19/32" / Top 19/32" / Bottom 3/4"

Pitch of stays to ditto: Sides 10" x 10" / Back 10" x 10" / Top 10" x 10" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 121 lbs Front plate at bottom: Material Steel Tensile strength 26-30 tons

Thickness 13/16" Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 13/16"

Pitch of stays at wide water space 14 1/2" x 10" Are stays fitted with nuts or riveted over nuts

Working Pressure 172 lbs Main stays: Material Steel Tensile strength 28-32 tons

Diameter At body of stay, 2 1/4" / Over threads No. of threads per inch 6 Area supported by each stay 254"

Working pressure by Rules 136 lbs Screw stays: Material Steel Tensile strength 26-30 tons

Diameter At turned off part, 1 1/2" / Over threads No. of threads per inch 9 Area supported by each stay 100"

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Working pressure by Rules 125 lbo Are the stays drilled at the outer ends No ✓ Margin stays: Diameter ^{At turned off part,} 1 5/8 ✓
 or ^{Over threads} 1 5/8 ✓
 No. of threads per inch 9 ✓ Area supported by each stay 122.5 ✓ Working pressure by Rules 124 lbo
 Tubes: Material Iron ✓ External diameter ^{Plain} 2 1/2 . 10 W.G. ✓ Thickness ^{10 W.G.} 5/16 ✓ No. of threads per inch 9 ✓
^{Stay} 2 1/2 . 5/16 ✓
 Pitch of tubes 3 3/4 x 3 7/8 ✓ Working pressure by Rules 162 4 1/5 lbo Manhole compensation: Size of opening in
 shell plate 14" x 20" ✓ Section of compensating ring 7 x 7/8 (mc) ✓ No. of rivets and diameter of rivet holes 36 - 1 5/16" rivet
 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} _____
^{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. (BOILERMAKERS) LIMITED.
 The foregoing is a correct description,
J. H. Shields Secretary, Manufacturer

Dates of Survey ⁵⁵⁶⁹ During progress of work in shops - - Mar 10-11-20-25-30. Apr 3-7-17-24-30 Are the approved plans of boiler and superheater forwarded herewith Yes ✓
 while building ⁵⁵⁷⁰ ^{Mar 10-11-20-25-30. Apr 3-7-17-24-30.} ^{May 4-6-8.} Total No. of visits 5569-10
5570-13

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
 These boilers have been constructed under Special Survey, they are of good material and workmanship, on completion were tested by hydraulic pressure with satisfactory results.
 These auxiliary boilers have now been fitted and fixed on the vessel in a satisfactory manner and on completion the oil burning installation was tried under working conditions and found satisfactory.
W. A. Stank

Survey Fee ... £ 16 : - : - } When applied for, 192
 Travelling Expenses (if any) £ : : } When received, 192

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

Committee's Minute _____
 Assigned _____

FRI. 23 OCT 1925

