

REPORT ON BOILERS.

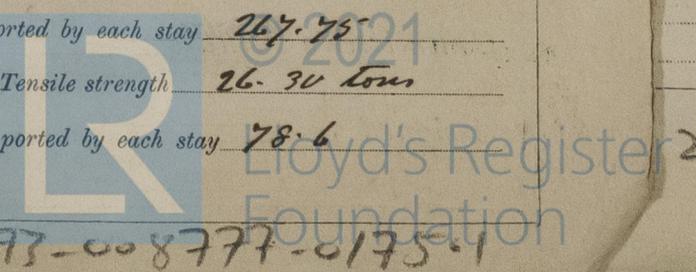
Sld No. 29027
Sub No. 12188

Received at London Office 17 DEC 1924

Date of writing Report 1924 When handed in at Local Office 16.12.1924 Port of Huddersburgh
 No. in Reg. Book. 90296 on the SUPP Survey held at Stockton-on-Tees Date, First Survey 2nd September Last Survey 8th December 1924
S/S. "Peterston" (Number of Visits 14) Gross 4680 Tons Net 2797
 Master _____ Built at Sunderland By whom built Bartram & Son Ltd Yard No. 258 When built 1925
 Engines made at Stockton By whom made James Blair & Co Ltd Engine No. 1962 When made 1925
 Boilers made at Stockton By whom made James Riley & Son Ltd Boiler No. 5539 When made 1924
 Nominal Horse Power ✓ Owners Llangorse S/S Coy Ltd. Port belonging to London

MULTITUBULAR BOILERS ~~MAIN, AUXILIARY, OR DONKEY.~~

Manufacturers of Steel James Th. Steel Co of Scotland Ltd (Letter for Record (S))
 Total Heating Surface of Boilers 1540 ϕ Is forced draught fitted no Coal or Oil fired Coal
 No. and Description of Boilers One single ended Working Pressure 180 lb
 Tested by hydraulic pressure to 320 Date of test 8.12.24 No. of Certificate 6420 Can each boiler be worked separately ✓
 Area of Firegrate in each Boiler 50 ϕ No. and Description of safety valves to each boiler 2 direct Spring
 Area of each set of valves per boiler {per Rule 9.87 as fitted 14.14 Pressure to which they are adjusted 185 lb Are they fitted with easing gear yes
 In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler no
 Smallest distance between boiler ~~or uptakes~~ and bunkers or ~~woodwork~~ (SIDES 14" BACK 22") Is oil fuel carried in the double bottom under boilers no
 Smallest distance between shell of boiler and tank top plating 3-5" Is the bottom of the boiler insulated no
 Largest internal dia. of boilers 12'-6" Length 11'-0" Shell plates: Material Steel Tensile strength 28-32
 Thickness 1 1/2 Are the shell plates welded or flanged no Description of riveting: circ. seams {end D. Riv. Lap inter. _____} long. seams 5 Ribs per pitch Diameter of rivet holes in {circ. seams 1 1/4" long. seams 1 1/8"} Pitch of rivets {3 7/8" + 6 1/8" 7 3/8"}
 Percentage of strength of circ. end seams {plate 63.0 rivets 49.0} Percentage of strength of circ. intermediate seam {plate _____ rivets _____}
 Percentage of strength of longitudinal joint {plate 85.6 rivets 90.1 combined 89.12} Working pressure of shell by Rules 180 lb
 Thickness of butt straps {outer 16 x 25/32 inner 16 x 29/32} No. and Description of Furnaces in each Boiler 3 Dighton
 Material Steel Tensile strength 26-30 tons Smallest outside diameter 36"
 Length of plain part {top _____ bottom granley} Thickness of plates {crown 1/2" bottom _____} Description of longitudinal joint Weld
 Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 200 lb
 End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 3 1/2" Pitch of stays 17" x 15 1/2"
 How are stays secured Nuts & 9 1/2" x 1 1/8" loose washers Working pressure by Rules 182 lb
 Tube plates: Material {front Steel back Steel} Tensile strength {26-30 tons 26-30 tons} Thickness {7/8" 23/32"}
 Mean pitch of stay tubes in nests 9 15/16" Pitch across wide water spaces 13 5/8" x 8 1/2" Working pressure {front 203 back 187}
 Girders to combustion chamber tops: Material Steel Tensile strength 28-32 tons Depth and thickness of girder at centre 9 1/4" x 1 1/2" Length as per Rule 32" Distance apart 10" No. and pitch of stays in each 3 @ 7 1/2" Working pressure by Rules 185 lb Combustion chamber plates: Material Steel
 Tensile strength 26-30 tons Thickness: Sides 4 1/4" Back 2 1/2" Top 4 1/4" Bottom 4 1/4"
 Pitch of stays to ditto: Sides 10" x 7 1/2" Back 9 1/4" x 8 1/2" Top 10" x 7 1/2" Are stays fitted with nuts or riveted over nuts
 Working pressure by Rules 182 lb Front plate at bottom: Material Steel Tensile strength 26-30 tons
 Thickness 7/8" Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 7/8"
 Pitch of stays at wide water space 13 5/8" x 8 1/2" Are stays fitted with nuts or riveted over nuts
 Working Pressure 244 Main stays: Material Steel Tensile strength 28-32 tons
 Diameter {At body of stay, 2 3/8" or Over threads 2 3/8"} No. of threads per inch 6 Area supported by each stay 267.75
 Working pressure by Rules 186 lb Screw stays: Material Steel Tensile strength 26-30 tons
 Diameter {At turned off part, 1 3/4" or Over threads _____} No. of threads per inch 9 Area supported by each stay 78.6



Working pressure by Rules 232 Are the stays drilled at the outer ends no Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part, } \frac{1}{2}'' \\ \text{Over threads } \frac{1}{8}'' \end{array} \right.$

No. of threads per inch 9 Area supported by each stay 99.48 Working pressure by Rules 213

Tubes; Material iron External diameter $\left\{ \begin{array}{l} \text{Plain } 3\frac{1}{2}'' \\ \text{Stay } 3'' \end{array} \right.$ Thickness $\left\{ \begin{array}{l} \text{N.8 - S.W.G. } \frac{5}{16}'' \\ \frac{3}{16}'' \end{array} \right.$ No. of threads per inch 9

Pitch of tubes 4 $\frac{3}{8}$ " x 4 $\frac{1}{2}$ " Working pressure by Rules 208 + 230 Manhole compensation: Size of opening in shell plate 20" x 16" Section of compensating ring 9" x 1 $\frac{1}{2}$ " 2 $\frac{1}{2}$ " rail No. of rivets and diameter of rivet holes 48 @ 1 $\frac{1}{2}$ "

Outer row rivet pitch at ends 7 $\frac{1}{2}$ " Depth of flange if manhole flanged ✓ Steam Dome: Material iron

Tensile strength _____ Thickness of shell _____ Description of longitudinal joint _____

Diameter of rivet holes _____ Pitch of rivets _____ Percentage of strength of joint $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right.$

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 $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel castings} \end{array} \right.$ _____

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 _____

The **RILEY BROS. (BOILERMAKERS) LIMITED,**
J. H. Shields Secretary

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of work in shops - - } \\ \text{while building } \left\{ \begin{array}{l} \text{During erection on board vessel - - -} \end{array} \right. \end{array} \right.$ 1924 Subt. 2 11.8 19.26 Oct. 19 16 20 Nov. 1. 2. 13. 21. 24. Dec 2. 8

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) ✓

Total No. of visits 14

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under Special Survey: is of good material and workmanship and on completion was tested by hydraulic pressure with satisfactory results

The boiler will be fitted on board at this port

This boiler was placed on board at Middlesbrough, 10/11

Donkey Boiler has now been efficiently secured in position, all necessary pipes have been fitted, safety valves adjusted under steam to 185 lbs. & easing gear fitted

G. Anderson
26/2/25

Survey Fee £ 10 : 5 : 0 When applied for, MONTHLY A/c. 192

Travelling Expenses (if any) £ ✓ : : When received, _____ 192

Wm Morrison & Co. Ltd
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute FRI. 13 MAR 1925

Assigned _____

