

REPORT ON BOILERS.

No. 12691

Received at London Office 23 JUN 1926

Writing Report 11-6-1926 When handed in at Local Office 21-6-1926 Port of Middlesbrough
 Survey held at Stockton on Tees Date, First Survey 29 March Last Survey 21-6-1926
 on the Single End Boiler for Messrs Harker & Sons, Stockton (Number of Visits 10)
 Built at Saltney By whom built Messrs. J. Crichton Yard No. 430 When built 1926
 made at Stockton By whom made Harker & Sons Engine No. 264 When made 1926
 made at Stockton By whom made Messrs Riley Bros Ltd Boiler No. 5669 When made 1926
 Horse Power Owners Port belonging to Aaim

TITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel South Durham Steel & Iron Coy. Ltd (Letter for Record (S))
 Heating Surface of Boilers 440 sq ft Is forced draught fitted John Stenier & Sons Ltd Coal or Oil fired coal
 Description of Boilers One Single End Working Pressure 130 lbs
 by hydraulic pressure to 245 lbs Date of test 11-6-26 No. of Certificate 6512 Can each boiler be worked separately
 Firegrate in each Boiler 12 1/4 sq ft No. and Description of safety valves to each boiler Two direct spring
 each set of valves per boiler (per Rule 3.79 1/2" as fitted 6.28 1/4" Pressure to which they are adjusted Are they fitted with easing gear
 of donkey boilers, state whether steam from main boilers can enter the donkey boiler
 distance between boilers or uptakes and bunkers or woodwork Is oil fuel carried in the double bottom under boilers
 distance between shell of boiler and tank top plating Is the bottom of the boiler insulated
 internal dia. of boilers 7'-6" Length 8'-0" Shell plates: Material Steel Tensile strength 28-32 tons
 1/2" Are the shell plates welded or flanged No Description of riveting: circ. seams SR. LAP.
 {Double Butt Straps} Diameter of rivet holes in {circ. seams 15/16" Pitch of rivets 2 1/8"
 {Double Riveted} {Three Rivets in pitch} {long. seams 1 1/16" 3 7/8"
 Age of strength of circ. end seams {plate 55.7 rivets 53.3 Percentage of strength of circ. intermediate seam {plate rivets
 Age of strength of longitudinal joint {plate 82.25 rivets 88.2 Working pressure of shell by Rules 130 lbs
 combined 93.9
 of butt straps {outer 7 3/4" x 13/32 made 9/16 inch inner 7 3/4" x 17/32 made 9/16 inch No. and Description of Furnaces in each Boiler One plain
 Steel Tensile strength 26-30 tons Smallest outside diameter 38"
 of plain part {top 60.375" Thickness of plates {crown 5/8" Description of longitudinal joint weld
 {bottom 73.625" {bottom 5/8"
 of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 140 lbs
 plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 1 1/16" Pitch of stays 13" (12 1/4" tubes)
 re stays secured Double nuts and loose washers 7 x 1 1/16" Working pressure by Rules 135 lbs
 plates: Material {front Steel Tensile strength 26-30 tons Thickness 1 1/16" 25 3/32"
 {back Steel Tensile strength 26-30 tons Thickness 1 1/16" 14 9/16"
 pitch of stay tubes in nests 9.235" Pitch across wide water spaces 13" x 4" Working pressure {front 149 lbs
 {back 141"
 to combustion chamber tops: Material Steel Tensile strength 28-32 tons Depth and thickness of girder
 re 5 1/2" x 1 1/4" Length as per Rule 21" Distance apart 9" No. and pitch of stays
 one at 9" Working pressure by Rules 137 lbs Combustion chamber plates: Material Steel
 strength 26 to 30 tons Thickness: Sides 5/8" Back 9/16" Top 19/32" Bottom 5/8"
 stays to ditto: Sides one @ 8 3/4" Back 9 3/4" x 8 1/4" Top one @ 9" Are stays fitted with nuts or riveted over nuts
 g pressure by Rules 132 lbs Front plate at bottom: Material steel Tensile strength 26-30 tons
 1 1/16" Lower back plate: Material steel Tensile strength 26-30 tons Thickness 1 1/16"
 of stays at wide water space Are stays fitted with nuts or riveted over
 Shipping Pressure Main stays: Material Steel Tensile strength 28-32 tons
 At body of stay, 2" No. of threads per inch 6" Area supported by each stay 175.5 sq in
 Over threads
 g pressure by Rules 149 lbs Screw stays: Material steel Tensile strength 26-30 tons
 At turned off part, 1 1/2" No. of threads per inch 9" Area supported by each stay 85.5 sq in
 Over threads

Working pressure by Rules 141 lbs Are the stays drilled at the outer ends ☒ Margin stays: Diameter ☒ At turned off part, ☒
 No. of threads per inch ☒ Area supported by each stay ☒ Working pressure by Rules ☒
 Tubes: Material iron External diameter ☒ Plain 3" Thickness ☒ 10 WG No. of threads per inch ☒ 9
 Pitch of tubes 4"x4" Working pressure by Rules S 236 & P 140 lbs Manhole compensation: Size of opening in
 shell plate 16"x20" Section of compensating ring 7x3/4" (MC NEIL) No. of rivets and diameter of rivet holes 36 - 3/16" holes
 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 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 ☒ During progress of work in shops - - - 29. Apr 9. 21. 28 May 5. 13. 27 Jun Are the approved plans of boiler and superheater forwarded herewith ☒ yes
☒ While building ☒ During erection on board vessel - - - 4. 11. 21 (If not state date of approval.)
 Total No. of visits 10

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
This boiler is a duplicate of Builders No 5620, Due Rft 12484.
Constructed under Special Survey: is of good material
and workmanship and on completion was tested by
hydraulic pressure with satisfactory results
Is being forwarded to the Shipbuilders for fitting on board.
Boiler mounted and covered by boilermakers.
For Engine Rft see Mdb No 12693.

Survey Fee ... £ 4 : 4 - } When applied for, MONTHLY A/c.
 Travelling Expenses (if any) £ : : } When received, 192

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

Committee's Minute LIVERPOOL - 6 AUG. 1926
 Assigned See Liv: Machinery rft.