

REPORT ON BOILERS.

No. 13280

Received at London Office

27 APR 1928

Date of writing Report 26. 4. 1928 When handed in at Local Office 26. 4. 1928 Port of MIDDLESBROUGH

No. in Reg. Book Survey held at STOCKTON Date, First Survey 15. 12. 27 Last Survey 26. 4. 1928

on the "Riley" boiler for Messrs Swan, Hunter & Latham - Richardson. (Number of Visits 14.) Gross Tons Net

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

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

Boilers made at _____ By whom made _____ Boiler No. _____ When made _____

Owners _____ Port belonging to _____

VERTICAL DONKEY BOILER.

Made at Stockton By whom made Riley Bros. Boiler No. 5774. When made 1928. Where fixed _____

Manufacturers of Steel Steel Company of Scotland

Total Heating Surface of Boiler 315 $\frac{1}{2}$ Is forced draught fitted No. Coal or Oil fired oil fired

No. and Description of Boilers One Vertical Riley Type Working pressure 100 lbs.

Tested by hydraulic pressure to 200 lbs. ✓ Date of test 26. 4. 28 No. of Certificate 6633.

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

Area of each set of valves per boiler { per rule 14.09. as fitted 14.8. Pressure to which they are adjusted 100 lbs. Are they fitted with easing gear Yes. ✓

State whether steam from main boilers can enter the donkey boiler ✓ Smallest distance between boiler or uptake and bunkers or woodwork ✓

Is oil fuel carried in the double bottom under boiler No. Smallest distance between base of boiler and tank top plating ✓

Is the base of the boiler insulated Yes. Largest internal dia. of boiler 5'-6" Height 12'-6"

Shell plates: Material steel Tensile strength 28/32. Thickness 13" $\frac{3}{4}$ " ✓

Are the shell plates welded or flanged No. Description of riveting: circ. seams { end S.R. long. seams end B.R. lap. ✓ inter. S.R. Centre T.R. lap. ✓

Dia. of rivet holes in { circ. seams 5" ✓ Pitch of rivets 2 1/2" ✓ Percentage of strength of circ. seams { plate 55.9 of Longitudinal joint { plate 69.7 74.6 rivets 65.7 rivets 78.5 70 combined ✓

Working pressure of shell by rules 112 lbs. Thickness of butt straps { outer ✓ inner ✓

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat dished Material steel

Tensile strength 26/30 Thickness 2 1/2" ✓ Radius 5'-0" ✓ Working pressure by rules 130 lbs.

Description of Furnace: Plain, spherical, or dished crown spherical Material steel Tensile strength 26/30

Thickness 5/8" ✓ External diameter { top ✓ bottom ✓ Length as per rule ✓ Working pressure by rules ✓

Pitch of support stays circumferentially ✓ and vertically ✓ Are stays fitted with nuts or riveted over ✓

Diameter of stays over thread ✓ Radius of spherical or dished furnace crown 2'-5 1/2" ✓ Working pressure by rule 177 lbs.

Thickness of Ogee Ring 5/8" ✓ Diameter as per rule { D 5'-6" Working pressure by rule 109 lbs. d 4'-11"

Combustion Chamber: Material steel Tensile strength 26/30 Thickness of top plate 5/8" ✓

Radius if dished ✓ Working pressure by rule 107 lbs. Thickness of back plate 19/32 ✓ Diameter if circular ✓

Length as per rule ✓ Pitch of stays 11" x 11" ✓ Are stays fitted with nuts or riveted over nuts ✓

Diameter of stays over thread 1 1/2" ✓ Working pressure of back plate by rules 100 lbs.

Tube Plates: Material { front steel back steel Tensile strength { 26/30 Thickness { 3/4 19/32 Mean pitch of stay tubes in nests 9 5/8"

If comprising shell, Dia. as per rule { front ✓ Pitch in outer vertical rows { 5 1/2" 7 1/2" Dia. of tube holes FRONT { stay 2 3/4 BACK { stay 2 1/2 plain 2 7/8 plain 2 1/2

Is each alternate tube in outer vertical rows a stay tube Yes. ✓ Working pressure by rules { front 108 lbs. back 133 lbs.

Girders to combustion chamber tops: Material steel Tensile strength 26/30

Depth and thickness of girder at centre 1/2" Ganet secured by 3 1/2 x 3 1/2 x 3/8" bar Length as per rule ✓

Distance apart ✓ No. and pitch of stays in each ✓ Working pressure by rule ✓

Crown stays: Material Steel Tensile strength 26/30 Diameter 1 1/2" { at body of stay, or over threads }
 No. of threads per inch 9 Area supported by each stay 121 Working pressure by rules 103 1/2
Screw stays: Material Steel Tensile strength 26/30 Diameter 1 1/2" { at turned off part, or over threads } No. of threads per inch 9
 Area supported by each stay 121 Working pressure by rules 103 1/2 Are the stays drilled at the outer ends no
Tubes: Material iron External diameter { plain 2 3/4" 2 7/8" stay 2 3/4" 2 3/4" } Thickness { 11 WG 5/16" }
 No. of threads per inch 9 Pitch of tubes 3 3/4" x 3 3/4" x 3 3/4" x 5 1/4" Working pressure by rules p. 125 S. 240 1/2
Manhole Compensation: Size of opening in Crown 16" x 12" Section of compensating ring ✓ No. of rivets and diameter of rivet holes ✓ Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged 3"
Uptake: External diameter ✓ Thickness of uptake plate ✓
Cross Tubes: No. ✓ External diameters ✓ Thickness of plates ✓
 Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with Yes

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

J. G. Shields SECRETARY, Manufacturer.

Dates of Survey { During progress of work in shops - 1924 Dec 15-23 1928 Feb 3-21-24-29-Mar 6-16-21 Is the approved plan of boiler forwarded herewith Yes (If not state date of approval.)
 while building { During erection on board vessel - April 3-13-18-25-26 Total No. of visits 14

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

This boiler is a duplicate of Messrs Riley No 5710 (hal. Rpt. No 13004).

The materials and workmanship are good. This boiler has been built under special survey in accordance with the Rules and Approved Plan.

Survey Fee ... £ 4-4-0 When applied for, MONTHLY A/c.
 Travelling Expenses (if any) £ : : When received, 19

M. Ma
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 24 AUG 1928

Assigned See Minute on hwe. Rpt 83127