

## REPORT ON BOILERS.

No. 12819

Received at London Office

1 FEB 12 12 AUG 1927

Date of writing Report 27-1-27 When handed in at Local Office 28-1-27 Port of Middlesbrough

No. in Survey held at Stockton-on-Tees Date, First Survey 2<sup>nd</sup> April 1926 Last Survey 28-1-1927

on the Vertical Boiler for Swan, Hunter &amp; Wigham Richardson Ltd (Number of Visits 22) Tons Gross Net

Built at By whom built Yard No. When built

Engines made at By whom made Engine No. When made

Boiler made at Stockton By whom made Messrs Riley Bros. Ltd. Boiler No. 5671 When made 1927

Owners Port belonging to

## VERTICAL DONKEY BOILER.

Made at Stockton By whom made Messrs Riley Bros. Ltd. Boiler No. 5671 When made 1927 Where fixed

Manufacturers of Steel Mannesmannröhrenwerke, Abteilung Schulz Knaut, Hückingen

Total Heating Surface of Boiler 315 sq ft Is forced draught fitted Yes Coal or Oil fired Oil

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

Tested by hydraulic pressure to 200 lbs Date of test 28th Jan. 1927. No. of Certificate 6524

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler 2 direct spring

Area of each set of valves per boiler per rule 4.095 sq in as fitted 4.80 sq in 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 Smallest distance between base of boiler and tank top plating

Is the base of the boiler insulated no Largest internal dia. of boiler 5'-6" Height 12'-6"

Shell plates: Material Steel Tensile strength 28 to 32 tons Thickness 13/32" &amp; 3/4"

Are the shell plates welded or flanged no Description of riveting: circ. seams end SR. Lap inter. SR. Lap long. seams Double Riveted Two Rivets

Dia. of rivet holes in circ. seams 15/16" Pitch of rivets 2 1/8" Percentage of strength of circ. seams plate 55.8 rivets 65.5 of Longitudinal joint plate 67.5 rivets 78.2 combined

Working pressure of shell by rules 110 lbs Thickness of butt straps outer inner

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

Tensile strength 26-30 tons Thickness 2 1/32" Radius int 59.944" Working pressure by rules 131 lbs on 2 1/32"

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

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 furnace crown 29.5" Working pressure by rule 177 lbs

Thickness of Ogee Ring 5/8" Diameter as per rule D 65.1875" a 59.0" Working pressure by rule 129 lbs

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

Radius if dished flat Working pressure by rule 126 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 28-32 tons 26-30 tons Thickness 3/4" 19/32" Mean pitch of stay tubes in nests 9.97"

comprising shell, Dia. as per rule front back Pitch in outer vertical rows Dia. of tube holes FRONT stay plain BACK stay plain

each alternate tube in outer vertical rows a stay tube Working pressure by rules front 116 lbs n.r.s back 140 lbs

Girders to combustion chamber tops: Material steel Tensile strength 28-32 tons

Depth and thickness of girder at centre Length as per rule

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

© 2019

Lloyd's Register

W1137-069



Crown stays: Material ☒ Tensile strength ☒ Diameter ☒ { at body of stay, ☒ or over threads ☒

No. of threads per inch ☒ Area supported by each stay ☒ Working pressure by rules ☒

Screw stays: Material Steel Tensile strength 26-30 tons Diameter ☒ { at turned off part, ☒ or over threads 1 1/2" No. of threads per inch 9

Area supported by each stay 121 sq" Working pressure by rules 103 lbs Are the stays drilled at the outer ends ☒

Tubes: Material iron External diameter ☒ { plain 2 1/2" stay 2 1/2" Thickness ☒ { 11 W.G. 3/16"

No. of threads per inch 9 Pitch of tubes 3 3/4" x 3 3/4" & 5 1/4" x 3 3/4" Working pressure by rules 8123 & P 125 lbs

Manhole Compensation: Size of opening in shell plate 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 2 7/8"

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

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

C. H. Shields Secretary, Manufacturer.

Dates of Survey ☒ During progress of work in shops - 1926. Apr 9, 21, 28, May 5, 13, 27, Jul 8, Oct 4, 26, Nov 10, 19 Is the approved plan of boiler forwarded herewith yes ☒  
☒ During erection on board vessel - 1927. Dec 6, 10, 17, 22, 29, Jan 13, 20, 25, 28 (If not state date of approval.)  
Total No. of visits 22

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

This boiler is a duplicate of Builders No 5667  
our Report No 12813.

This boiler has been constructed under Special  
Survey: is of good material and workmanship  
and on completion was tested by hydraulic pressure  
with satisfactory results.

The Boiler has been satisfactorily fitted up on board the Vessel in Engine Room Starboard  
Side. Fitted with oil fuel, gravity feed, forced draught, F.P. above 150° F°

L. G. Shellers  
July 1927

Survey Fee £ 4 4 When applied for Monthly 19  
Travelling Expenses (if any) £ : : When received 19

TUES. 16 AUG 1927

Committee's Minute

Assigned

See Nve Pl. rpt. No 81653 attached

Engine Surveyor to Lloyd's Register of Shipping.



© 2019

Lloyd's Register  
Foundation