

# REPORT ON BOILERS.

No. 13175

Received at London Office 19 JAN 1928

Writing Report 18. 1. 28 When handed in at Local Office 18. 1. 28 Port of MIDDLESBROUGH.

Survey held at STOCKTON Date, First Survey 24-11-27 Last Survey 16. 1. 19 28

on the boiler for Messrs Swan, Hunter & Wigham Richardson (Number of Visits 6.) Tons Gross Net

at Wallsend By whom built S H & W R Ltd Yard No. 1325 When built 1928.5

made at Walker & Co By whom made Swan Hunter & Wigham Richardson Engine No. 1252 When made 1928.5

made at Stockton By whom made Riley Bros Boiler No. 5790 When made 1928

Port belonging to

## VERTICAL DONKEY BOILER.

at Stockton By whom made Riley Bros Boiler No. 5790 When made 1928 Where fixed off-end of Engine Room - on flat

Manufacturers of Steel Steel Company of Scotland

Heating Surface of Boiler 146 sq ft Is forced draught fitted yes Coal or Oil fired oil

Description of Boilers One vertical Riley Type Working pressure 150 lbs

Tested by hydraulic pressure to 275 lbs. Date of test 16. 1. 28. No. of Certificate 6608.

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

Area of each set of valves per boiler per rule 15" dia Pressure to which they are adjusted 150 lb Are they fitted with easing gear yes

Whether steam from main boilers can enter the donkey boiler no main boilers Smallest distance between boiler or uptake and bunkers

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 Largest internal dia. of boiler 4'-0" Height 9'-0"

Material steel Tensile strength 28/32 Thickness 13/32

Are the shell plates welded or flanged no Description of riveting: circ. seams S.R. long. seams T.R. lap.

Area of rivet holes in circ. seams 15/16 Pitch of rivets 2 3/8 Percentage of strength of circ. seams plate 55.9 rivets 65.7 of Longitudinal joint plate 72.9 rivets 105 combined

Working pressure of shell by rules 165 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 3/4" Radius 4'-0" Working pressure by rules

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

Thickness 9/16 External diameter top 41" bottom 42 3/16 Length as per rule 22" Working pressure by rules 179 lbs.

Are stays fitted circumferentially and vertically Are stays fitted with nuts or riveted over

Radius of stays over thread Radius of spherical or dished furnace crown 3'-0" Working pressure by rule 152 lbs.

Thickness of Ogee Ring 9/16 Diameter as per rule D 47 3/16 a 42 3/16 Working pressure by rule 171 lbs.

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

Radius if dished Working pressure by rule 243 lbs. Thickness of back plate 9/16 Diameter if circular

Length as per rule Pitch of stays 7 1/2" x 9 1/2" Are stays fitted with nuts or riveted over nuts

Radius of stays over thread Working pressure of back plate by rules 150 lbs.

Shell Plates: Material steel Tensile strength Thickness 5/8 Mean pitch of stay tubes in nests 7 1/16"

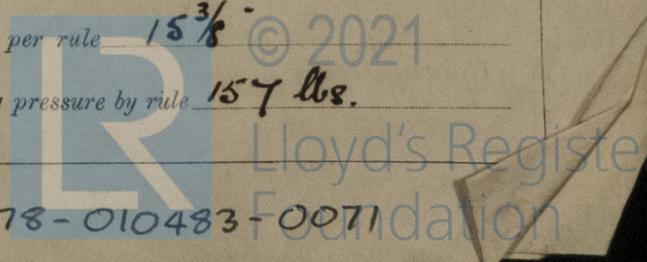
Comprising shell, Dia. as per rule front 7 1/2" x 6" Dia. of tube holes FRONT stay 2 1/4 plain 2 1/16 BACK stay 2" plain 2"

Are alternate tube in outer vertical rows a stay tube yes Working pressure by rules front 153 lbs back 232 lbs.

Orders to combustion chamber tops: Material steel Tensile strength 28/32

Depth and thickness of girder at centre 4 3/4" x 5/8" (double) Length as per rule 15 3/8"

Distance apart one No. and pitch of stays in each one Working pressure by rule 157 lbs.



**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 Diameter { at turned off part, 1/2 or over threads ✓ No. of threads per inch 9  
 Area supported by each stay 71 Working pressure by rules 176 lbs Are the stays drilled at the outer ends no  
**Tubes:** Material iron External diameter { plain 2" 6 2/16 or stay 2" 6 2/16 Thickness { 11 W.G. or 5/16  
 No. of threads per inch 9 Pitch of tubes 3" x 3" c 4 1/2" x 3" Working pressure by rules p. 155. S. 208  
**Manhole Compensation:** Size of opening in shell plate In crown 16" x 12" Section of compensating ring Flanged No. of rivets and diam 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 - - } 1927 Nov. 24 - Dec. 7-15-23 1928 Jan. 11-16 Is the approved plan of boiler forwarded herewith Yes.  
 { while building } { During erection on board vessel - - } Total No. of visits 6  
 (If not state date of approval.)

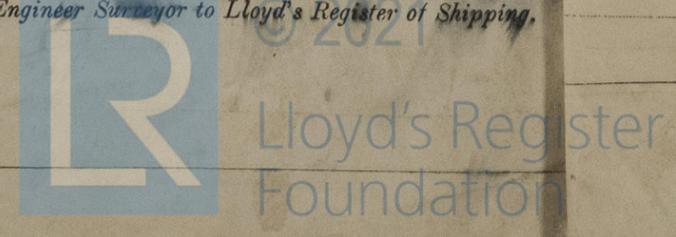
**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) The materials and workmanship are good. This boiler has been built under special survey in accordance with the Rules and approved Plan.  
The Boilers satisfactorily fitted up on board the vessel on flat at aft end of Engine Room  
The Boilers tested under steam and its Safety Valves adjusted 150lb. " F.V.R 7/32" A.V.R 7/32  
The Boilers fitted for burning oil fuel. Flash point of oil used to be above 150° F

*L. G. Shalleras*  
 Newcastle on Tyne  
 16 May 28.

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

*M. Man*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 8 JUN 1928  
 Assigned see minute on hve J. E. Rpt  
82814



Rpt. 13.  
**RI**  
 Date of ...  
 No. in Reg. Boo 28352  
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 Owners  
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