

Rpt. 5b.

REPORT ON BOILERS.

No. 13387

Received at London Office 3 AUG 1928

Date of writing Report 4.8.28 When handed in at Local Office 7.8.28 Port of MIDDLESBROUGH.

No. in Reg. Book Survey held at STOCKTON. Date, First Survey 6.3.28 Last Survey 4-8-1928

on the boiler for Messrs Swan Hunter & Wigham-Richardson, 72, 1242, (Number of Visits 13) Tons {Gross 7983
Twin Screw Motor Vessel "Port Alma." Net 4926

Built at Newcastle-on-Tyne By whom built Swan Hunter, Wigham & Richardson No. 1341 When built 1928

Engines made at Sunderland By whom made W. & A. D. Bradford & Co. Ltd. Engine No. 140 When made "

Boilers made at Stockton By whom made Riley Bros, Ltd. Boiler No. 5782 When made "

Owners Commonwealth & Dominion Line, Ltd. Port belonging to London.

VERTICAL DONKEY BOILER.

Made at Stockton By whom made Riley Bros Boiler No. 5782 When made 1928 Where fixed Engine Room.

Manufacturers of Steel David Colville & Sons.

Total Heating Surface of Boiler 315 sq Is forced draught fitted No Coal or Oil fired oil

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

Tested by hydraulic pressure to 200 lbs. Date of test 4-8-28 No. of Certificate 6660

Area of Firegrate in each Boiler - No. and Description of safety valves to each boiler 1 Pair Spring loaded.

Area of each set of valves per boiler { per rule 4.10 sq
as fitted 4.80 sq 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 No Largest internal dia. of boiler 5'-6" Height 12'-0"

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

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

Dia. of rivet holes in { circ. seams 15/16" Pitch of rivets { 2 1/8" Percentage of strength of circ. seams { plate 55.9
long. seams 13/16 & 1 1/16" { 2 1/16 & 3/16" { rivets 66.7 of Longitudinal joint { plate 69.7 & 74.6
combined 78.5 & 70.

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 1/32" 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 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 2'-5 1/2" rad.

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

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

Tube Plates: Material { front Steel Tensile strength { 28/32 Thickness { 3/4" Mean pitch of stay tubes in nests 9 7/8"
back 26/30 { 19/32"

comprising shell, Dia. as per rule { front 5 1/4 & 7 1/2" Dia. of tube holes FRONT { stay 2 3/4" BACK { stay 2 1/2"
back ✓ Pitch in outer vertical rows { 9" { plain 2 7/16" { plain 2 1/2"

each alternate tube in outer vertical rows a stay tube 4/16" Working pressure by rules { front 108 lbs.
back 133 lbs.

Orders to combustion chamber tops: Material Steel Tensile strength 26/30

Depth and thickness of girder at centre 1/2" Gussat 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 ✓



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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 1/2 or over threads No. of threads per inch 9

Area supported by each stay 121 Working pressure by rules 103 lbs. Are the stays drilled at the outer ends no

Tubes: Material Iron External diameter { plain 2 1/2 to 2 7/8 stay 2 1/2 to 2 3/4 Thickness { 11 WG 9/16

No. of threads per inch 9 Pitch of tubes 3 3/4 x 3 3/4 & 3 3/4 x 5 1/4 Working pressure by rules p. 125 lbs. s. 240 lbs.

Manhole Compensation: Size of opening in shell 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 Yls.

The foregoing is a correct description,
RILEY BROS. (BOILERMAKERS) LIMITED,
 Manufacturer.
J. G. Shields SECRETARY

Dates of Survey while building { During progress of work in shops - 1926 Mar 6-16, Apr 3-26, May 16-25, Jun 1-6. Is the approved plan of boiler forwarded herewith Yls.
 (If not state date of approval.)
 { During erection on board vessel - Jul 6-18, 26-30, Aug 4. Total No. of visits 13.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
This boiler is a duplicate of the one at Riley Bros No 5781 (Inst. Rpt No 13339).

The materials and workmanship are good. This boiler has been built under special survey in accordance with the Rules and Approved Plan.
 The Boiler was forwarded to Newcastle-on-Tyne with all mountings complete. It has been securely fitted on board the vessel & its safety valves adjusted under steam to working pressure.

Survey Fee £ 44-4-0 When applied for, MONTHLY A/C.
 Travelling Expenses (if any) £ : : When received,

P. J. Man. & S. Wood
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 14 DEC 1928
 Assigned See Proc R.C. of S. No. 83570

Wm. A. Guinness
 Newcastle-on-Tyne
 Lloyd's Register Foundation

Date of writing
 No. in Surveyor's Reg. Book.
 Built at
 Owners
 Oil Engines
 Generators
 No. of Sets
 OIL ENGINE
 Maximum pressure
 Span of bearing
 Revolutions per minute
 Crank Shaft
 Flywheel Shaft
 Is a governor
 Are the cylinders
 Cooling Water
 Lubricating
 Air Compressor
 Scavenging
 AIR RECIPIERS
 Can the internal
 Is there a drain
 High Pressure
 Seamless, lap w
 Starting Air
 Seamless, lap w
 ELECTRIC
 Pressure of steam
 If alternating c
 Has the Autom
 Generators, a
 are they over co
 is an adjustable
 are they so spac
 PLANS. A
 PARE G
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 FOR MESS