

Rpt. 5a.

REPORT ON BOILERS.

Std. No. 29779

Mov. No. 13303

Received at London Office 16 MAY 1928 30 JUN 1928

Date of writing Report 14.5.1928 When handed in at Local Office 14.5.1928 Port of MIDDLESBROUGH

No. in Survey held at Stockton Reg. Book. Date, First Survey 16.3.28 Last Survey 25.7.1928 11.5.1928

on the donkey boiler for s. "LLANFAIR" (Messrs. Riley Bros No. 5779) (Number of Visits 6) Tons {Gross 54966 Net 2985}

Master Built at Sunderland. By whom built Barton & Co. Yard No. 263. When built 1928.

Engines made at Stockton By whom made Blair Co (1926) Ltd. Engine No. 1978 When made 1928.

Boilers made at .d. By whom made .d. Boiler No. 1978 When made 1928.

Nominal Horse Power Owners Evans, Thomas Radcliffe & Co. Port belonging to London.

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel David Colville & Sons Ltd (Letter for Record S.)

Total Heating Surface of Boilers 1550 sq. ft. Is forced draught fitted no. Coal or Oil fired Coal.

No. and Description of Boilers One S.B. Working Pressure 120 lbs.

Tested by hydraulic pressure to 230 lbs. Date of test 11.5.28. No. of Certificate 6637. Can each boiler be worked separately

Area of Firegrate in each Boiler 50 sq. ft. No. and Description of safety valves to each boiler Two. Direct & Spring loaded.

Area of each set of valves per boiler {per Rule 14.340, as fitted 14.140} Pressure to which they are adjusted 125 lbs. Are they fitted with easing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No. Non-return Valve fitted.

Smallest distance between boilers or uptakes and bunkers or woodwork 1' 9" Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating 2' 0" Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 12' 6" Length 11' 0" Shell plates: Material Steel Tensile strength 28/32

Thickness 23/32 Are the shell plates welded or flanged no. Description of riveting: circ. seams end D.R.

long. seams T.R.D.B.S. Diameter of rivet holes in {circ. seams 15/16, long. seams 13/16} Pitch of rivets {2 3/4" x 5 1/2", 5 1/8"

Percentage of strength of circ. end seams {plate 68.7, rivets 42.4} Percentage of strength of circ. intermediate seam {plate, rivets}

Percentage of strength of longitudinal joint {plate 86.3, rivets 93.6, combined 87.3} Working pressure of shell by Rules 123 lbs

Thickness of butt straps {outer 9/16, inner 11/16} No. and Description of Furnaces in each Boiler 3 Corrugated

Material Steel Tensile strength 26/30 Smallest outside diameter 2' 11 3/4"

Length of plain part {top, bottom} Thickness of plates {crown 3/8, bottom 3/8} Description of longitudinal joint weld.

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 147 lbs.

End plates in steam space: Material Steel Tensile strength 26/30 Thickness 3/4" Pitch of stays 16 3/4" x 15"

How are stays secured D.N.W. Working pressure by Rules 121 lbs.

Tube plates: Material {front, back} Steel Tensile strength {26/30, 26/30} Thickness {11/16, 5/8}

Mean pitch of stay tubes in nests 10" Pitch across wide water spaces 13 7/8" Working pressure {front 123 lbs, back 137 lbs}

Girders to combustion chamber tops: Material Steel Tensile strength 28/32 Depth and thickness of girder

at centre 8 x 8 (double) Length as per Rule 2'-8" Distance apart 10" No. and pitch of stays

in each 2 - 10 1/2 x 10 Working pressure by Rules 146 lbs. Combustion chamber plates: Material Steel

Tensile strength 26/30 Thickness: Sides 5/8" Back 17/32 Top 5/8" Bottom 5/8"

Pitch of stays to ditto: Sides 10" x 10 1/2" Back 8 1/2" x 9 1/4" Top 10" x 10 1/2" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 121 lbs. Front plate at bottom: Material Steel Tensile strength 26/30

Thickness 11/16 Lower back plate: Material Steel Tensile strength 26/30 Thickness 3/2"

Pitch of stays at wide water space 13 5/8" Are stays fitted with nuts or riveted over nuts

Working Pressure 120 lbs. Main stays: Material Steel Tensile strength 28/32

Diameter {At body of stay, Over threads} 2 3/8" No. of threads per inch 6 Area supported by each stay

Working pressure by Rules 120 lbs. Screw stays: Material Steel Tensile strength 26/30

Diameter {At turned off part, Over threads} 1 1/2" No. of threads per inch 9 Area supported by each stay 105 sq. in.



W57-0204

Working pressure by Rules 120 lbs Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part. 1 1/2 or Over threads 1 1/2 ✓
 No. of threads per inch 9 Area supported by each stay 104 Working pressure by Rules 120 lbs
 Tubes: Material iron External diameter { Plain 3 3/4 6 3/16 Thickness { 10 W.G. No. of threads per inch 9 Stay 3 3/4 6 3/4 5/16 ✓
 Pitch of tubes 4 3/8" x 4 1/4" Working pressure by Rules p. 130 s. 257 lbs. Manhole compensation: Size of opening in shell plate 16" x 20" Section of compensating ring 7" x 1" No. of rivets and diameter of rivet holes 44 - 15/16 ✓
 Outer row rivet pitch at ends 6" ✓ Depth of flange if manhole flanged 3" 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 Rivets _____
 Internal diameter _____ Working pressure by Rules _____ Thickness of crown _____ No. and diameter of stays _____
 How connected to shell _____ Inner radius of crown _____ Working pressure by Rules _____
 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 Yes ✓

RILEY BROS. (BOILERMAKERS) LIMITED
J. H. Shields Secretary

Dates of Survey { During progress of work in shops - - - 1928 Mar 16. Apr 18-25. May 1-8-11. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Yes ✓
 { During erection on board vessel - - - } Total No. of visits 6

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
 This boiler is a duplicate of Messrs Riley's No 5709 Ind. Rpt No 13223. The materials and workmanship are good. This boiler has been built under special survey in accordance with the Rules and approved Plan. The work of installation aboard will be carried out at Sunderland. The Donkey Boiler has been satisfactorily fitted in the vessel, and the Safety Valves adjusted under steam to 125 lbs ✓

Survey Fee £ 10-6-0. When applied for, _____ 192
 Travelling Expenses (if any) £ : : When received, _____ 192

MONTHLY A/c

P. J. Mac & *A. I. Griffith*
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **TUES. 10 JUL 1928**
 Assigned *See Report attached*



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