

REPORT ON BOILERS.

No. 57724

Received at London Office

2 DEC '36

Date of writing Report 10 When handed in at Local Office 28. 11. 1936 Port of Glasgow.

No. in Reg. Book. Survey held at Carfin. Date, First Survey 16. 6. 36 Last Survey 25th Nov. 1936.

Boiler No. 3415 Ness Point (Number of Visits 17) Tons { Gross Net

Master Built at By whom built Yard No. When built

Engines made at By whom made Engine No. When made

Boilers made at Carfin By whom made Alex. Anderson & Sons Ltd. Boiler No. 3415 When made 1936

Nominal Horse Power Owners Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Colvilles Ltd (Letter for Record S. ✓)

Total Heating Surface of Boilers 581 $\text{sq} \text{ft}$ Is forced draught fitted No Coal or Oil fired Coal.

No. and Description of Boilers One single ended cylinder return tube Working Pressure 160 lbs.

Tested by hydraulic pressure to 290 lbs. Date of test 25-11-36 No. of Certificate 19852 Can each boiler be worked separately ✓

Area of Firegrate in each Boiler 23.5 $\text{sq} \text{ft}$ No. and Description of safety valves to each boiler

Area of each set of valves per boiler { per Rule as fitted } 7.96 $\text{sq} \text{ft}$ Pressure to which they are adjusted 160 lbs/sq Are they fitted with easing gear Yes.

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler ✓

Smallest distance between boilers or uptakes and bunkers or woodwork 16" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating ✓ Is the bottom of the boiler insulated No

Largest internal dia. of boilers 9'-0" Length 9'-1 3/4" Shell plates: Material Steel Tensile strength 29-33 tons

Thickness 1 1/16" Are the shell plates welded or flanged No. Description of riveting: circ. seams { end inter. } 2-875" ✓

long. seams T.R.D.B.S. Diameter of rivet holes in { circ. seams 15/16" long. seams 13/16" } Pitch of rivets { 5-56" ✓

Percentage of strength of circ. end seams { plate 67.3 rivets 55.3 } Percentage of strength of circ. intermediate seam { plate 85.5 rivets 100.0 } ✓

Percentage of strength of longitudinal joint { plate 85.5 rivets 100.0 combined 91.0 } Working pressure of shell by Rules 167 lbs. ✓

Thickness of butt straps { outer 9/16" inner 11/16" } No. and Description of Furnaces in each Boiler Two plain ✓

Material steel Tensile strength 26-30 tons Smallest outside diameter 2'-8"

Length of plain part { top 70.8" bottom 70.8" } Thickness of plates { crown 5/8" bottom } Description of longitudinal joint Welded.

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 173 lbs.

End plates in steam space: Material steel Tensile strength 26-30 tons Thickness 7/8" Pitch of stays 14" Centre 18" Wing ✓

How are stays secured Double nuts & loose washers Working pressure by Rules 166 lbs. ✓

Tube plates: Material { front back } steel Tensile strength { 26-30 tons } Thickness { 7/8" 1 1/16" }

Mean pitch of stay tubes in nests 10.3" Pitch across wide water spaces 13 1/2" Working pressure { front 180 lbs back 160 lbs }

Girders to combustion chamber tops: Material steel Tensile strength 28-32 tons Depth and thickness of girder

at centre 6" 2 @ 2 1/32" Length as per Rule 22.7" Distance apart 9 3/4" Max. No. and pitch of stays

in each 2 @ 6 5/16" Working pressure by Rules 172 lbs. Combustion chamber plates: Material steel

Tensile strength 26-30 tons Thickness: Sides 9/16" Back 19/32" Top 19/32" Bottom 3/4" ✓

Pitch of stays to ditto: Sides 8 3/4" x 7 15/16" Back 8 1/2" x 8 3/4" Top 9 3/4" x 6 5/16" Are stays fitted with nuts or riveted over Yes

Working pressure by Rules 160 lbs. Front plate at bottom: Material steel Tensile strength 26-30 tons

Thickness 7/8" Lower back plate: Material steel Tensile strength 26-30 tons Thickness 7/8"

Pitch of stays at wide water space 13 1/2" Are stays fitted with nuts or riveted over Yes

Working Pressure 242 lbs. Main stays: Material steel Tensile strength 28-32 tons

Diameter { At body of stay, or Over threads } 2 1/2" No. of threads per inch 6 Area supported by each stay 256 sq. inches

Working pressure by Rules 173 lbs. Screw stays: Material Iron Tensile strength 21.5 tons

Diameter { At turned off part, or Over threads } 1 1/2" No. of threads per inch 9 Area supported by each stay 77.5 sq. inches

Working pressure by Rules 162 lb. Are the stays drilled at the outer ends No. Margin stays: Diameter ^{At turned off part.} 1 3/4"
 No. of threads per inch 9 Area supported by each stay 97 sq. inches Working pressure by Rules 186 lb.
 Tubes: Material Steel External diameter ^{Plain} 3" Thickness ^{8.L.S.G.} 5/16" x 3/8" No. of threads per inch 9
 Pitch of tubes 4 1/4" x 4 5/8" Working pressure by Rules 250 lb. Manhole compensation: Size of opening in
 shell plate 16" x 12" Section of compensating ring 7" x 3/4" No. of rivets and diameter of rivet holes 46 @ 1 3/16"
 Outer row rivet pitch at ends 5 9/16" Depth of flange if manhole flange 3" McNeil Steam Dome: Material None.
 Tensile strength _____ Thickness of shell _____ Description of longitudinal joint _____
 Diameter of rivet holes _____ Pitch of rivets _____ Percentage of strength of joint ^{Plate} _____
 Internal diameter _____ Working pressure by Rules _____ Thickness of crown _____ No. and diameter of
 stays _____ Inner radius of crown _____ Working pressure by Rules _____
 How connected to shell _____ 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} _____
 Number of elements _____ Material of tubes _____ ^{Steel castings} _____
 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 22 inclusive for boilers been complied with Yes
 The foregoing is a correct description.
 Per Pro. ALEX. ANDERSON & SONS, LTD
S. W. B. Fleming Manufacturer.

Dates of Survey ^{During progress of} 1936 June: 16, 22, 26 July: 14, 28 Are the approved plans of boiler and superheater forwarded herewith Yes.
^{work in shops - - -} Aug: 12, 14, 20 Sep 3 Oct: 1, 9, 15, 28 (If not state date of approval.)
^{During erection on} _____
^{board vessel - - -} _____
 Total No. of visits 17
Nov: 3, 13, 20, 25

Is this Boiler a duplicate of a previous case No If so, state Vessel's name and Report No. _____

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been
built under survey in accordance with the Rules and
approved plan. The materials and workmanship are good.
The boiler is to the order of Messrs. Plenty & Son Ltd Newbury,
and intended for a Tug boat building for the Lowestoft Harbour
Board.
28/11/36.

Survey Fee ... £ 4 : 4 : 0 When applied for 30 NOV 1936
 Travelling Expenses (if any) £ _____ When received 16-1-1937

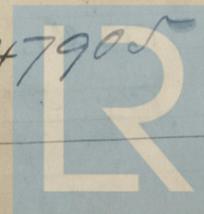
G. E. Murdoch
 Engineer Surveyor to Lloyd's Register of Shipping.

TUE 15 JUN 1937

Committee's Minute GLASGOW 1 DEC 1937

Assigned TRANSMIT TO LONDON

See
Jul 26 47905



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