

REPORT ON BOILERS.

No. 81892

-8 OCT 1927

Received at London Office

Date of writing Report 3-10-1927 When handed in at Local Office 7-10-1927 Port of Newcastle-on-Tyne

No. in Survey held at Hebburn Date, First Survey 12 July 1927 Last Survey 29 Sept 1927

(Number of Visits 13.) Tons { Gross Not

Master Built at Goole By whom built Goole S. & Rep. Co. Ltd. Yard No. 278 When built 1927

Engines made at Newbury By whom made Plenty & Sons Ltd. Engine No. 2575 When made 1927

Boilers made at Hebburn By whom made Palmers Co. Ltd. Boiler No. 1083 When made 1927

Nominal Horse Power Owners Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel W. Beardmore & Co. Ltd. Glasgow (Letter for Record 3)

Total Heating Surface of Boilers 1890 sq ft Is forced draught fitted No Coal or Oil fired COAL

No. and Description of Boilers 1 S.E. MULTITUBULAR Working Pressure 200 LBS.

Tested by hydraulic pressure to 350 LBS. Date of test 29-9-27 No. of Certificate 210 Can each boiler be worked separately

Area of Firegrate in each Boiler 52.5 sq ft No. and Description of safety valves to each boiler

Area of each set of valves per boiler per Rule 10-9 as fitted 11-8 Pressure to which they are adjusted 200 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 Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating Is the bottom of the boiler insulated

Largest internal dia. of boilers 14' 6" Length 10' 0" Shell plates: Material STEEL Tensile strength 28-32 TONS

Thickness 1 5/8" Are the shell plates welded or flanged No Description of riveting: circ. seams end D.R.L. inter. —

long. seams D.R. D.B.S. Diameter of rivet holes in circ. seams 1 5/8" long. seams 1 7/8" Pitch of rivets 4" 9 1/8"

Percentage of strength of circ. end seams plate 67.2% rivets 45.5% Percentage of strength of circ. intermediate seam plate — rivets —

Percentage of strength of longitudinal joint plate 85.6% rivets 86.1% combined 88.7% Working pressure of shell by Rules 200.4 LBS. 3 cf

Thickness of butt straps outer 1 1/8" inner 1 1/8" No. and Description of Furnaces in each Boiler 3 MORISON SECTION

Material STEEL Tensile strength 26-30 TONS Smallest outside diameter 3' 6 3/4"

Length of plain part top 10 1/2" bottom 10 1/2" Thickness of plates crown 5/8" bottom 5/8" Description of longitudinal joint WELD

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 213 LBS.

End plates in steam space: Material STEEL Tensile strength 26-30 TONS Thickness 1 1/4" Pitch of stays 19 3/4" x 19 3/8"

How are stays secured DOUBLE NUTS & WASHERS Working pressure by Rules 208 LBS.

Tube plates: Material front STEEL back STEEL Tensile strength 26-30 TONS Thickness 3/8"

Mean pitch of stay tubes in nests 9" x 8 3/4" Pitch across wide water spaces 14 1/4" Working pressure front 353 LBS. back 255 LBS.

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

at centre 8 1/2" x 1 5/8" Length as per Rule 2' 6 1/8" Distance apart 8 1/2" No. and pitch of stays

in each 2 @ 8 1/2" Working pressure by Rules 250 LBS. Combustion chamber plates: Material STEEL

Tensile strength 26-30 TONS Thickness: Sides 1/16" Back 1/16" Top 1/16" Bottom 1"

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

Working pressure by Rules 203 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 29/32

Pitch of stays at wide water space d = 19" Are stays fitted with nuts or riveted over NUTS

Working Pressure 205 LBS. Main stays: Material STEEL Tensile strength 28-32 TONS

Diameter At body of stay 3 1/4" No. of threads per inch 6 Area supported by each stay 392.4

Working pressure by Rules 204 LBS. Screw stays: Material STEEL Tensile strength 26-30 TONS

Diameter At turned off part 1 3/4" No. of threads per inch 9 Area supported by each stay 81

Working pressure by Rules 224 LBS. Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, or Over threads 1 3/8" ✓

No. of threads per inch 9 ✓ Area supported by each stay 105.625 sq. in. Working pressure by Rules

Tubes: Material STEEL ✓ External diameter { Plain 3 1/4" ✓ Stay 3 1/4" ✓ Thickness { B.W.G. 4, 5, 16 ✓ No. of threads per inch 9 ✓

Pitch of tubes 4 1/2" x 4 3/8" ✓ Working pressure by Rules 230 LBS. Manhole compensation: Size of opening in shell plate 20" x 16" ✓ Section of compensating ring 3' 0" x 2' 8" x 1 5/16" No. of rivets and diameter of rivet holes 32 @ 1 5/16" ✓

Outer row rivet pitch at ends 9 1/8" ✓ Depth of flange if manhole flanged 3 1/2" ✓ 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 ✓ 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 ✓ 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

The foregoing is a correct description,
A. Jamerson for *W.B.* Manufacturer.

Dates of Survey { During progress of work in shops - 1927 July 12, 20, 22, Aug 3, 12, 18. Are the approved plans of boiler and superheater forwarded herewith Yes ✓
 { During erection on board vessel - Sept. 1, 6, 16, 19, 21, 27, 29. (If not state date of approval.)
 Total No. of visits 13.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under Special Survey, the materials and workmanship are good.

Survey Fee ... £ 12 : 12 : 0 When applied for, 1927
 Travelling Expenses (if any) £ : : When received, 78 : 11 : 1927

7 OCT 1927
Thomas Napier
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRL 9 MAR 1928
 Assigned See Val. P.B. pt. No. 38953