

REPORT ON BOILERS.

No. 17656

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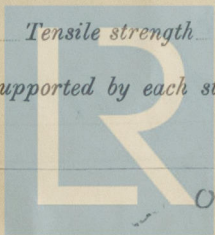
Date of writing Report 30th March 1937. When handed in at Local Office 3rd April 1937 Port of West Hartlepool

No. in Reg. Book. 88273 on the Single Screw Steamer "Felldene" Survey held at West Hartlepool Date, First Survey 22nd September, 1936 Last Survey 25th March 1937
 (Number of Visits 60) Tons { Gross 4260 Net 2618

Master Built at West Hartlepool By whom built William Gray & Co. Ltd Yard No. 1074 When built 1937
 Engines made at West Hartlepool By whom made Central Marine Engine Works Engine No. 1074 When made 1937
 Boilers made at West Hartlepool By whom made Central Marine Engine Works Boiler No. 1074 When made 1937
 Nominal Horse Power 289. Owners Felldene Shipping Co. Ltd Port belonging to London

MULTITUBULAR BOILERS—MAIN, ~~AUXILIARY, OR DONKEY.~~

Manufacturers of Steel Babcocks, Ltd (Letter for Record S)
 Total Heating Surface of Boilers 4964 sq. ft Is forced draught fitted no. Coal or Oil fired coal
 No. and Description of Boilers 2, single ended Working Pressure 200 lbs
 Tested hydraulic pressure to 350 lbs Date of test 29.1.37 No. of Certificate 3859 Can each boiler be worked separately yes.
 Area of Firegrate in each Boiler 54.6 sq. ft No. and Description of safety valves to each boiler 2, backhams improved high lift
 Area of each set of valves per boiler { per Rule 8.74 ins as fitted 9.85 " Pressure to which they are adjusted 205 lbs. 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 24" Is oil fuel carried in the double bottom under boilers no
 Smallest distance between shell of boiler and tank top plating 30" Is the bottom of the boiler insulated yes
 Largest internal dia. of boilers 15'-10 1/16" Length 10'-9" Shell plates: Material Steel Tensile strength 29-33 tons
 Thickness 1 13/32" Are the shell plates welded or flanged no Description of riveting: circ. seams { end D. R. lap inter. single stroke
 long. seams J. R. D. B. S. Diameter of rivet holes in { circ. seams 1 7/16" long. seams 1 7/16" Pitch of rivets { 10"
 Percentage of strength of circ. end seams { plate 64 rivets 45.6 Percentage of strength of circ. intermediate seam { plate rivets
 Percentage of strength of longitudinal joint { plate 85.6 rivets 85.8 combined 88.47 Working pressure of shell by Rules 203.6 lbs
 Thickness of butt straps { outer 1 1/16" inner 1 3/16" No. and Description of Furnaces in each Boiler Three, "Leighton" type 30%
 Material Steel Tensile strength 26-30 tons Smallest outside diameter 48 3/4"
 Length of plain part { top bottom Thickness of plates { crown 1 1/16" bottom 1 1/16" Description of longitudinal joint welded
 Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 206.7 lbs
 End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 1 3/8" Pitch of stays 20" x 21 1/2"
 How are stays secured Double nuts & washers Working pressure by Rules 203.3 lbs
 Tube plates: Material { front back Steel Tensile strength { 26-30 tons Thickness { 1 5/16" 7/8"
 Mean pitch of stay tubes in nests 11.125" Pitch across wide water spaces 14.25" x 8.75" Working pressure { front 216.5 lbs back 224 lbs
 Girders to combustion chamber tops: Material Steel Tensile strength 28-32 tons Depth and thickness of girder
 at centre 8 1/4" x 3 1/4" Length as per Rule 31.4" Distance apart 8 1/2" wings 7 1/2" centres No. and pitch of stays
 in each 2 x 10 1/16" Working pressure by Rules 203.9 lbs Combustion chamber plates: Material Steel
 Tensile strength 26-30 tons Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 1 3/16"
 Pitch of stays to ditto: Sides 8 1/2" x 10 3/8" Back 8 1/2" x 10 1/4" Top 8 7/8" x 10 1/16" Are stays fitted with nuts or riveted over nuts
 Working pressure by Rules 201 lbs 204 lbs 201 lbs Front plate at bottom: Material Steel Tensile strength 26-30 tons
 Thickness 1 5/16" Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 29/32
 Pitch of stays at wide water space 15" x 8 1/2" Are stays fitted with nuts or riveted over nuts
 Working Pressure 226.5 lbs Main stays: Material Steel Tensile strength 28-32 tons
 Diameter { At body of stay, 3 3/8" No. of threads per inch 6 Area supported by each stay 435 sq. ins
 Working pressure by Rules 201 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 89.28 sq. ins



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Working pressure by Rules 203 lbs Are the stays drilled at the outer ends no Margin stays: Diameter ^{At turned off part,} 2" ^{or} 2" ^{Over threads}

No. of threads per inch 9 Area supported by each stay 12 7/8" x 8 1/2" Working pressure by Rules 231 lbs

Tubes: Material Steel External diameter ^{Plain} 3 1/4" ^{Stay} 3 1/4" Thickness ^{8 W.G.} 3/16", 1/4", 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 ✓ Section of compensating ring ✓ No. of rivets and diameter of rivet holes ✓

Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged Bottom 3 1/2" top 4 1/16" 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 Smoke Tube Manufacturers of ^{Tubes} Stewart & Lloyd's, Glasgow ^{Steel forgings} Colvilles ^{Steel castings} Newns, Hopkinsons, Ltd

Number of elements 55 each boiler Material of tubes Steel Internal diameter and thickness of tubes 17 7/8" 2 1/2 7/8"

Material of headers Steel Tensile strength 26-30 tons Thickness 1 1/4" mean Can the superheater be shut off and the boiler be worked separately yes Is a safety valve fitted to every part of the superheater which can be shut off from the boiler yes

Area of each safety valve 1.765 sq ins Are the safety valves fitted with easing gear yes Working pressure as per Rules approved plan - 200 lbs Pressure to which the safety valves are adjusted 208 lbs Hydraulic test pressure: tubes 1250 lbs forgings and castings 600 lbs and after assembly in place 1000 lbs Are drain cocks or valves fitted to free the superheater from water where necessary yes

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with yes

The foregoing is a correct description,
FOR THE CENTRAL MARINE ENGINE WORKS,
(W. Gray & Co., Ltd.) Manufacturer.

Dates of Survey ^{During progress of} work in shops - - ^{while} building ^{During erection on} board vessel - -

Are the approved plans of boiler and superheater forwarded yes (If not state date of approval.)

Total No. of visits ✓

Is this Boiler a duplicate of a previous case yes If so, state Vessel's name and Report No. s/s "Jordene" W. Hpl. Report No 17566

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) See accompanying machinery report.

Survey Fee ... £ : : } When applied for, 19

Travelling Expenses (if any) £ : : } When received, 19

F. Brooke Smith
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE 13 APR 1937

Assigned See other Hpl. J.E 17656



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