

REPORT ON BOILERS.

No. 17940

Received at London Office

MAY 9 1939

Date of writing Report 3/5/1939 When handed in at Local Office 5/5/1939 Port of WEST HARTLEPOOL.

No. in Survey held at WEST HARTLEPOOL.
Reg. Book.

Date, First Survey 15/10/27

Last Survey 2/5/1939

(Number of Visits 66)

Gross 2470.77

Tons Net 1482.49

on the S.S. TINTERN ABBEY

Master Built at West Hartlepool By whom built W. Gray & Co. Ltd. Yard No. 1090 When built 1939.

Engines made at West Hartlepool By whom made Central Coal Eng. Works Engine No. 1090 When made 1939.

Boilers made at West Hartlepool By whom made Central Coal Eng. Works Boiler No. 1090 When made 1939.

Nominal Horse Power 234 Owners Abbey Line Ltd Port belonging to Cardiff.

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

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

Total Heating Surface of Boilers 3826 sq. ft. Is forced draught fitted No. Coal or Oil fired Coal.

No. and Description of Boilers Two, single ended. Working Pressure 200 lbs. sq. in.

Tested by hydraulic pressure to 350 lbs. Date of test 30.5.38. No. of Certificate 3890 Can each boiler be worked separately Yes.

Area of Firegrate in each Boiler 44 sq. ft. No. and Description of safety valves to each boiler 2, Buchan's Improved High Lift.

Area of each set of valves per boiler (per Rule 5.64 sq. in. as fitted 6.28 sq. in.) Pressure to which they are adjusted 210 lbs. sq. in. 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 30" Is oil fuel carried in the double bottom under boilers No.

Smallest distance between shell of boiler and tank top plating 24" Is the bottom of the boiler insulated Yes.

Largest internal dia. of boilers 14'-3 1/2" Length 10'-6" Shell plates: Material Steel Tensile strength 29.33 tons

Thickness 1 1/4" Are the shell plates welded or flanged No. Description of riveting: circ. seams (end 2R lat. inter. single stroke)

long. seams 3R 2B 5. Diameter of rivet holes in (circ. seams 1 5/16" long. seams 1 7/16" Pitch of rivets 4" 9 1/8"

Percentage of strength of circ. end seams (plate 67.2 rivets 42.9) Percentage of strength of circ. intermediate seam (plate — rivets —)

Percentage of strength of longitudinal joint (plate 85.61 rivets 88 combined 88.82) Working pressure of shell by Rules 200.1 lbs. sq. in.

Thickness of butt straps (outer 3 1/32" inner 1 3/32") No. and Description of Furnaces in each Boiler Three, Deighton Type.

Material Steel Tensile strength 26-30 tons Smallest outside diameter 3'-5 7/8"

Length of plain part (top — bottom —) Thickness of plates (crown 19/32" bottom 3/32") Description of longitudinal joint Welded.

Dimensions of stiffening rings on furnace or c.c. bottom — Working pressure of furnace by Rules 207.8 lbs. sq. in.

End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 1 1/4" Pitch of stays 21" x 18 3/4"

How are stays secured Double nuts and washers Working pressure by Rules 205.5 lbs. sq. in.

Tube plates: Material (front — back —) Steel Tensile strength 26-30 tons Thickness (front 27/32" back 27/32")

Mean pitch of stay tubes in nests 11 1/4" Pitch across wide water spaces 14 1/4" x 9" Working pressure (front 213.5 lbs. back 203 lbs.)

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

at centre 7 3/4" x 1 3/4" Length as per Rule 30 7/16" Distance apart 9 1/2" No. and pitch of stays

in each 2 @ 9 1/2" Working pressure by Rules 206.2 lbs. sq. in. Combustion chamber plates: Material Steel

Tensile strength 26-30 tons Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 23/32"

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

Working pressure by Rules 200.5 lbs. sq. in. 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 3/32"

Pitch of stays at wide water space 14 1/4" x 10" Are stays fitted with nuts or riveted over Nuts.

Working Pressure 222.2 lbs. sq. in. Main stays: Material Steel Tensile strength 28-32 tons

Diameter (At body of stay, or Over threads) 3 1/4" No. of threads per inch 6 Area supported by each stay 393.75 sq. in.

Working pressure by Rules 204.2 lbs. sq. in. Screw stays: Material Steel Tensile strength 26-30 tons

Diameter (At turned off part, or Over threads) 1 3/4" No. of threads per inch 9 Area supported by each stay 90.25 sq. in.

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Working pressure by Rules 201-100 Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, or Over threads 2" ✓

No. of threads per inch 9 Area supported by each stay 116.25 sq in Working pressure by Rules 212.9 lbs.

Tubes: Material Steel External diameter { Plain 3 1/4" Stay 3 1/4" Thickness { 8 W.G. 5 1/16" 4 1/16" 5 1/16" No. of threads per inch 9

Pitch of tubes 4 1/2" x 4 1/2" Working pressure by Rules 232 lbs. Manhole compensation: Size of opening in shell plate 20 x 16 Section of compensating ring 37" x 33" x 1 1/4" No. of rivets and diameter of rivet holes 32 @ 1 1/8" Dia.

Outer row rivet pitch at ends 10" Depth of flange if manhole flanged 3 3/8" Box 3 5/16" 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

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 forgings 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 forgings and 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

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

while building { During erection on board vessel - - - } 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. MARGAM ABBEY "RPT. 1794"

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been constructed under special survey and in accordance with the approved plans for a working pressure of 200 lbs per square inch.

The workmanship and materials have been found good.

Upon completion the Boilers were tested in the presence of the undersigned with hydraulic pressure to 350 lbs per square inch, showed no signs of weakness and were found tight and sound in every respect at that pressure.

Survey Fee ... £ : : When applied for, 10

Travelling Expenses (if any) £ : : When received, 10

Arthur W. Oxford, Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned See Vpl. 26. 17940

FRI 19 MAY 1939