

REPORT ON BOILERS.

No. 17791

Received at London Office 10 FEB 1938

Date of writing Report 2-2-1938 When handed in at Local Office 8-2-1938 Port of West Hartlepool

No. in Survey held at Hartlepool Date, First Survey 13th April, 1937 Last Survey 27th January, 1938

on the s.s. "Chulmleigh" (Number of Visits 87) Tons Gross Net

Master Built at Sunderland By whom built W. Pickersgill & Co. Yard No. 238 When built 1938

Engines made at West Hartlepool By whom made Richardsons Westgarth & Co. Ltd. Engine No. 2687 When made 1938

Boilers made at West Hartlepool By whom made Richardsons Westgarth & Co. Ltd. Boiler No. 2687 When made 1938

Nominal Horse Power 502 Owners W. J. Tatem Ltd. Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel The Steel Company of Scotland (Letter for Record S.)

Total Heating Surface of Boilers 5570 sq ft Is forced draught fitted yes. Coal or Oil fired coal.

No. and Description of Boilers Two, single ended cylindrical. Working Pressure 220 lbs.

Tested by hydraulic pressure to 380 lbs. Date of test 26-10-37 No. of Certificate 3878 Can each boiler be worked separately yes.

Area of Firegrate in each Boiler 60.5 sq ft No. and Description of safety valves to each boiler 2. Bockburn's High Lift. 2 1/2" Dia.

Area of each set of valves per boiler (per Rule 8.5 sq ins / as fitted 9.8 sq ins) Pressure to which they are adjusted 228 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 or woodwork 7'6" Is oil fuel carried in the double bottom under boilers no.

Smallest distance between shell of boiler and tank top plating 2'6" Is the bottom of the boiler insulated yes.

Largest internal dia. of boilers 15'6" Length 12'0" Shell plates: Material steel Tensile strength 29.33 tons.

Thickness 1 1/2" Are the shell plates welded or flanged no. Description of riveting: circ. seams end D.R. Lap.

Long. seams Y.R.D.B.S. Diameter of rivet holes in (circ. seams 1 7/16" / long. seams 1 1/2" Pitch of rivets 3 7/8" / 10 1/8"

Percentage of strength of circ. end seams (plate 62.9 / rivets 44.2) Percentage of strength of circ. intermediate seam (plate 85.18 / rivets 86.1)

Percentage of strength of longitudinal joint (plate 87.7 / rivets 87.7) Working pressure of shell by Rules 220 lbs.

Thickness of butt straps (outer 1 5/32" / inner 1 9/32") No. and Description of Furnaces in each Boiler Three, Deighton type.

Material steel Tensile strength 26-30 tons Smallest outside diameter 3'9 3/8"

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 222 lbs.

End plates in steam space: Material steel Tensile strength 26-30 tons Thickness 1 5/16" Pitch of stays 20 3/4" x 17 3/4"

How are stays secured double nuts Working pressure by Rules 221 lbs.

Tube plates: Material (front / back) steel Tensile strength 26-30 tons Thickness 1 5/16" / 2 7/32"

Mean pitch of stay tubes in nests 10 1/2" Pitch across wide water spaces 14" Working pressure (front 229 lbs / back 232 lbs)

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

at centre 9 1/4" x 13 1/4" Length as per Rule 2'9 23/32" Distance apart 9" No. and pitch of stays

in each 3 @ 8" Working pressure by Rules 227 lbs. Combustion chamber plates: Material steel

Tensile strength 26-30 tons Thickness: Sides 2 1/32" Back 2 1/32" Top wings 1 1/16" Bottom 1 5/16"

Pitch of stays to ditto: Sides 8 3/8" x 8" Back 8 1/2" x 8" Top wings 9" x 8" Are stays fitted with nuts or riveted over nuts.

Working pressure by Rules 220 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 1 5/16"

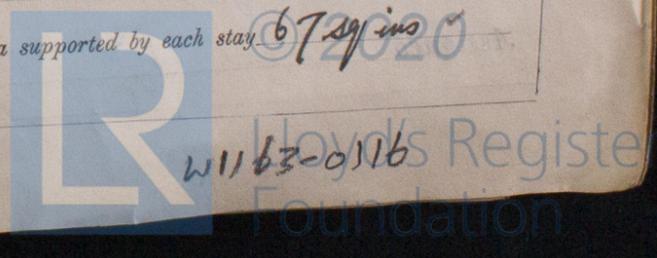
Pitch of stays at wide water space 14 3/4" x 8" Are stays fitted with nuts or riveted over nuts.

Working Pressure 25 1/2 lbs. 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 357.93 sq ins.

Working pressure by Rules 224 lbs. Screw stays: Material steel Tensile strength 26-30 tons

Diameter (At turned off part, or Over threads) 1 5/8" & 1 3/4" No. of threads per inch 9 Area supported by each stay 67.29 sq ins.



Working pressure by Rules 227 lbs Are the stays drilled at the outer ends no. Margin stays: Diameter ^{At turned off part} 1 7/8" _{or Over threads} 1 7/8"
 No. of threads per inch 9 Area supported by each stay 93 sq ins Working pressure by Rules 229 lbs.
 Tubes: Material Iron External diameter ^{Plain} 3" Thickness ^{8 W. 9.} 3/8" 5/16" No. of threads per inch 9
 Pitch of tubes 4 1/4" x 4 1/8" Working pressure by Rules 250 lbs. Manhole compensation: Size of opening 16" x 12"
 shell plate 16" x 12" Section of compensating ring Yes 4 3/8" No. of rivets and diameter of rivet holes Yes 4 3/8" Steam Dome: Material Yes
 Outer row rivet pitch at ends Yes Depth of flange if manhole flanged Yes Description of longitudinal joint Yes
 Tensile strength Yes Thickness of shell Yes Percentage of strength of joint ^{Plate} Yes _{Rivets}
 Diameter of rivet holes Yes Pitch of rivets Yes Thickness of crown Yes No. and diameter of stays Yes
 Internal diameter Yes Working pressure by Rules Yes Working pressure by Rules Yes
 How connected to shell Yes Inner radius of crown Yes Working pressure by Rules Yes
 of rivets in outer row in dome connection to shell Yes Size of doubling plate under dome Yes Diameter of rivet holes and pitch Yes

Type of Superheater Smoke tube Manufacturers of Tubes Superheater Co Ltd. Manchester
 Number of elements 60 each boiler Material of tubes solid drawn steel Steel forgings do.
 Material of headers steel Tensile strength 660 lbs. Steel castings do.
 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 1.76 sq ins. Are the safety valves fitted with easing gear Yes. Working pressure as per Rules approved plan 220 lbs. Pressure to which the safety valves are adjusted 230 lbs. Hydraulic test pressure 1,000 lbs.
 tubes 1,000 lbs. forgings and castings 660 lbs. and after assembly in place 660 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,
W. J. Forridge Manufacturer

Dates of Survey ^{During progress of work in shops - -} Yes Are the approved plans of boiler and superheater forwarded herewith Yes (If not state date of approval.)
 while building ^{During erection on board vessel - - -} Yes Total No. of visits Yes

Is this Boiler a duplicate of a previous case Yes. If so, state Vessel's name and Report No. s.s. "Northleigh" W. Spl Rpt No 1773

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 220 lbs per sq inch. The materials and workmanship have been found good. Upon completion the Boilers were tested in the presence of the undersigned with hydraulic pressure 380 lbs per sq 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

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

Committee's Minute FRI 20 MAY 1938
 Assigned Su Sea 32379

