

REPORT ON BOILERS.

No. 16365

20 NOV 1925

Date of writing Report 19 Nov 1925 When handed in at Local Office 19 Nov 1925 Port of WEST HARTLEPOOL

No. in Survey held at Hartlepool Date, First Survey 18 Aug Last Survey 16 Nov 1925

on the SS "ROBERT L HOLT" (Number of Visits 13) Gross 2909 Tons Net 1687

Master Built at Middlesbrough By whom built Smiths Dock Co. Ltd. Yard No. 822 When built 1925

Engines made at Middlesbrough By whom made Smiths Dock Co. Ltd. Engine No. 290 When made 1925

Boilers made at Hartlepool By whom made Richardsons Westgarth & Co. Boiler No. D/64 When made 1925

Nominal Horse Power 282 Owners John Holt & Co. (Liverpool) Port belonging to Liverpool

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel D. Colville & Sons Ltd. (Letter for Record S)

Total Heating Surface of Boilers 4233 sq ft. Is forced draught fitted No Coal or Oil fired Coal

No. and Description of Boilers Two single ended Working Pressure 180 lbs

Tested by hydraulic pressure to 320 lbs Date of test 16.11.25 No. of Certificate 3678 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 55.6 sq ft. No. and Description of safety valves to each boiler 2 Bodburn's High Lift

Area of each set of valves per boiler {per Rule 9.4 as fitted 9.8} Pressure to which they are adjusted 185 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 20" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 20" Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 15'-3 9/16" Length 10'-6" Shell plates: Material Steel Tensile strength 29/33

Thickness 1 7/32" Are the shell plates welded or flanged no Description of riveting: circ. seams {end DR 2 inter. 3 1/2"} Pitch of rivets {8 1/4"}

g. seams J.P. D.B.D. Diameter of rivet holes in {circ. seams 1 7/32" long. seams 1 7/32"} Percentage of strength of circ. end seams {plate 65.2 rivets 67.5 of 25/32 plate} Percentage of strength of circ. intermediate seam {plate 85.23 rivets 86 combined 87.7}

Percentage of strength of longitudinal joint {plate 86 rivets 87.7} Working pressure of shell by Rules 181

Thickness of butt straps {outer 1 7/16" inner 1 7/16"} No. and Description of Furnaces in each Boiler 3 Morisons 3 cf.

Material Steel Tensile strength 26/28 Smallest outside diameter 45 1/16"

Length of plain part {top bottom } Thickness of plates {crown 19" bottom 32"} Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 189

Stays in steam space: Material Steel Tensile strength 26/30 Thickness 1 3/32" Pitch of stays 20" x 17"

Are stays secured Double nuts Working pressure by Rules 180

Stays: Material {front Steel back Steel} Tensile strength {26/30} Thickness {7/8" 3/4"}

Pitch of stay tubes in nests 10 3/8" Pitch across wide water spaces 14 1/4" x 8 7/8" Working pressure {front 186 back 187}

Stays to combustion chamber tops: Material Steel Tensile strength 26/30 Depth and thickness of girder

Centre 8 1/4" x 1 3/4" Length as per Rule 32 1/8" Distance apart 8 3/4" No. and pitch of stays

Each 3 7 5/8" Working pressure by Rules 185 Combustion chamber plates: Material Steel

Plate strength 26/30 Thickness: Sides 11/16" Back 19/32" Top 19/32" Bottom 11/16"

No. of stays to ditto: Sides 9 1/2" x 8 3/4" Back 8 1/4" x 8 3/8" Top 8 3/4" x 7 5/8" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 180 Front plate at bottom: Material Steel Tensile strength 26/30

Thickness 7/8" Lower back plate: Material Steel Tensile strength 26/30 Thickness 25/32"

Pitch of stays at wide water space 14 1/4" x 8 1/4" Are stays fitted with nuts or riveted over nuts

Working Pressure 183 Main stays: Material Steel Tensile strength 25/32

Stays {At body of stay, 3" x 2 7/8" or Over threads } No. of threads per inch 6 Area supported by each stay 17" x 20 1/2" 19

Working pressure by Rules 193 Screw stays: Material Steel Tensile strength 26/30

Stays {At turned off part, 1 1/2" or Over threads } No. of threads per inch 9 Area supported by each stay 8 1/4" x 8"

Working pressure by Rules 187 Are the stays drilled at the outer ends no Margin stays: Diameter ^{At turned off part,} 1 3/4" ^{or} 1 3/4" ^{Over threads} ✓
No. of threads per inch 9 Area supported by each stay 11 1/4" x 8 1/4" Working pressure by Rules 195
Tubes: Material Iron External diameter ^{Plain} 3 1/2" ^{Stay} 3 1/4" Thickness ^{8 V G} 5/16" x 7/16" No. of threads per inch 9 ✓
Pitch of tubes 4 9/16" x 4 7/16" Working pressure by Rules 230 Manhole compensation: Size of opening in
shell plate 13" x 16 1/2" Section of compensating ring 12 9/16" x 1 7/32" No. of rivets and diameter of rivet holes 32 1 7/32" dia
Outer row rivet pitch at ends 8 1/4" Depth of flange if manhole flanged ✓ 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} _____ ^{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 _____

North Eastern approved.
Type of Superheater none 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 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 3.1416" Are the safety valves fitted with easing gear yes Working pressure as per
Rules 180 lbs Pressure to which the safety valves are adjusted 190 lbs Hydraulic test pressure: _____
tubes _____, castings _____ and after assembly in place 270 lbs Are drain cocks or valves fitted
to free the superheater from water where necessary yes
Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with yes

The foregoing is a correct description,
For RICHARDSONS, WESTGARTH & CO., LIMITED
L.D. Wright ^{DIRECTOR AND GENERAL MANAGER}

Dates of Survey ¹⁹¹⁵ During progress of work in shops - - Aug 18. 76 Sep 4. 8. 22 Oct 6. 9. 15. 27 Are the approved plans of boiler and superheater forwarded herewith
while building During erection on board vessel - - Nov 2. 6. 11. 16 (If not state date of approval.)
Total No. of visits 13

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

These boilers have been built under Special Purvey
The materials and workmanship are good.
On completion they satisfactorily withstood the
hydraulic test.

They are to be despatched to Middlebrough for
fitting on board

These boilers have now been fitted and secured on board
in accordance with the Rules, tried under steam
and safety valves adjusted

Survey Fee ... £ 26 : 12 : - When applied for, 19 Nov 1925
Travelling Expenses (if any) £ : : When received, 7. 12. 1925

R.D. Shilston
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 27 APR 1926

Assigned See 1. Expt attached



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Foundation