

Rpt. 5a.

REPORT ON BOILERS.

Sld. N° 28788

Sld. No. 16165

Received at London Office

THU. MAR. 20 1924

WEST HARTLEPOOL

Date of writing Report 15th March 1924 When handed in at Local Office 19 Mar 1924 Port of

No. in Survey held at Hartlepool

Date, First Survey 16 April 1924

Last Survey 14 March 1924

7920 on the S.S. "KILDALE"

(Number of Visits)

Gross

Net 3877

Tons

Net 2310

Master Built at Sunderland By whom built Wm Pickering & Sons Ltd Yard No. 206 When built 1924

Engines made at Hartlepool By whom made Richardsons Westgarth & Co Ltd Engine No. 2640 When made 1924

Boilers made at ditto By whom made ditto Boiler No. 2640 When made 1924

Nominal Horse Power Owners Rowland Atkinson & S. S. Co Ltd Port belonging to Whitby

(Headlam & Rowland)

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel J Spencer & Sons Ltd (Letter for Record S)

Total Heating Surface of Boilers 5437 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 Date of test 25.9.23 No. of Certificate 3629 Can each boiler be worked separately yes

Area of Firegrate in each Boiler 62 sq ft No. and Description of safety valves to each boiler Two direct spring

Area of each set of valves per boiler {per Rule 17.4 sq ft as fitted 19.24 sq ft 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 18" Is oil fuel carried in the double bottom under boilers no

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

Largest internal dia. of boilers 16'-6" Length 11'-0" Shell plates: Material Steel Tensile strength 28/32

Thickness 1 1/2" Are the shell plates welded or flanged no Description of riveting: circ. seams {end 9 Riv inter. 9 Riv

Long. seams J.R. D.B.S. Diameter of rivet holes in {circ. seams 1 1/4" long. seams 1 1/2" Pitch of rivets {End 3 1/2" inter 3 1/2"

Percentage of strength of circ. end seams {plate 64.3 rivets 42.8 Percentage of strength of circ. intermediate seam {plate 67.8 rivets 58

Percentage of strength of longitudinal joint {plate 85.67 rivets 89.8 Working pressure of shell by Rules 181

Thickness of butt straps {outer 1 5/8" inner 1 3/2" No. and Description of Furnaces in each Boiler Three Morrison's

Material Steel Tensile strength 26/28 Smallest outside diameter 48 1/2"

Length of plain part {top Thickness of plates {crown 5" bottom 5/8" Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 188

End plates in steam space: Material Steel Tensile strength 26/30 Thickness Front 1 1/2" Back 1 3/2" Pitch of stays 16 1/2" x 17 1/4"

How are stays secured D. Nuts Working pressure by Rules 180.5

Tube plates: Material {front Steel Tensile strength { 26/30 Thickness { 29/32 25/32

Mean pitch of stay tubes in nests 10 3/4" Pitch across wide water spaces 14 1/2" Working pressure {front 191 back 189

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

at centre 8" x 1 3/4" Length as per Rule 32 1/2" Distance apart 8 3/8" No. and pitch of stays

in each 3 x 8" Working pressure by Rules 185.6 Combustion chamber plates: Material Steel

Tensile strength 26/30 Thickness: Sides 19/32 Back 19/32 Top 19/32 Bottom 25/32

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

Working pressure by Rules 181 Front plate at bottom: Material Steel Tensile strength 26/30

Thickness 8" Lower back plate: Material Steel Tensile strength 26/30 Thickness 13/16"

Pitch of stays at wide water space 13 3/4" x 8 3/8" Are stays fitted with nuts or riveted over nuts

Working Pressure 223 Main stays: Material Steel Tensile strength 28/32

Diameter {At body of stay 2 3/4" 2 5/8" No. of threads per inch 6 Area supported by each stay 2 3/8" dia 16 1/2" x 16 5/8"

Working pressure by Rules 181 Screw stays: Material Steel Tensile strength 26/30

Diameter {At turned off part 1 1/2" No. of threads per inch 9 Area supported by each stay 8 3/8" x 8"

Diameter {Over threads 1 1/2" No. of threads per inch 9 Area supported by each stay 8 3/8" x 8"

Diameter {At turned off part 1 1/2" No. of threads per inch 9 Area supported by each stay 8 3/8" x 8"

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Working pressure by Rules 187 Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 1 3/4"
No. of threads per inch 9 Area supported by each stay 10 1/2" x 8 1/2" Working pressure by Rules 213
Tubes: Material Iron External diameter { Plain } 3 1/2" Thickness { 5/16" x 7/16" } No. of threads per inch 9
Pitch of tubes 4 1/16" x 4 5/8" Working pressure by Rules 215 Manhole compensation: Size of opening 28" 1 1/32"
shell plate 13 x 16 1/2 Section of compensating ring 13 13/16" x 1 1/32" No. of rivets and diameter of rivet holes 28" 1 1/32"
Outer row rivet pitch at ends 9 3/8 Depth of flange if manhole flanged - Steam Dome: Material none
Tensile strength 408 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 -
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 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 -
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 -
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,
FOR P. & O. STEAMSHIP CO. LIMITED.
S. D. Wright Manufacturer
GENERAL MANAGER.

Dates of Survey { During progress of work in shops - - }
while building { During erection on board vessel - - - }
See attached report on machinery
Are the approved plans of boiler and superheater forwarded herewith yes
(If not state date of approval.)
Total No. of visits 1

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

These boilers have been built under special survey and found satisfactory under the hydraulic test.

Survey Fee ... £ : ✓ : When applied for, 192
Travelling Expenses (if any) £ : ✓ : When received, 192

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

Committee's Minute TUE. 15 APR. 1924

Assigned -



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Foundation