

REPORT ON BOILERS.

No. 16127

Received at London Office WED. 31 OCT. 1923

Date of writing Report 22 Oct 1923 When handed in at Local Office 30 Oct 1923 Port of WEST HARTLEPOOL

No. in Survey held at Hartlepool Date, First Survey 21 March Last Survey 19 Oct 1923

Book. 8877 on the S S "ELDON" (Number of Visits 84) Gross 2995 Tons Net 1465

Boiler made at Middlesbrough By whom built Furness SBCo Yard No. 48 When built 1923

Engines made at Hartlepool By whom made Richardsons Westgarth & Co Engine No. 2641 When made 1923

Boilers made at ditto By whom made ditto Boiler No. 2641 When made 1923

Indicated Horse Power 335 Owners Furness Withy & Co. Port belonging to Newcastle

WATER TUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel J. Opener & Sons (Letter for Record S)

Total Heating Surface of Boilers 5679 sq ft Is forced draught fitted no Coal or Oil fired coal

Number and Description of Boilers 2 single ended Working Pressure 180 lb

Tested by hydraulic pressure to 320 Date of test 26.6.23 No. of Certificate 3625 Can each boiler be worked separately yes

Area of Firegrate in each Boiler 70.875 No. and Description of safety valves to each boiler 2 direct spring

Area of each set of valves per boiler {per Rule 11.6 as fitted 19.24} Pressure to which they are adjusted 185 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 no side bunkers 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 yes

Largest internal dia. of boilers 17'-0" Length 11'-0" Shell plates: Material Steel Tensile strength 28/32

Thickness 1 13/32 Are the shell plates welded or flanged no Description of riveting: circ. seams {end DR Lap inter. Treble R Lap

End 1 5/16 INTER 1 13/32 Pitch of rivets {1 ROW 9 5/8 2 ROWS 4 13/16

Percentage of strength of circ. end seams {plate 61 rivets 46.5} Percentage of strength of circ. intermediate seam {plate 69.5 rivets 61

Percentage of strength of longitudinal joint {plate 85.4 rivets 89 combined 87.3} Working pressure of shell by Rules 183.5

Thickness of butt straps {outer 1 3/16 inner 1 3/16} No. and Description of Furnaces in each Boiler 4 Morrison's

Material Steel Tensile strength 26/28 Smallest outside diameter 41 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 2.07

Stays in steam space: Material Steel Tensile strength 26/30 Thickness 1 1/8 front 1 1/8 back Pitch of stays 17 1/4 x 19 1/2 F

How are stays secured D nuts & washers Working pressure by Rules 181

End plates: Material {front back} Steel Tensile strength {26/30} Thickness {3/8 3/4}

Pitch of stay tubes in nests 10 13/32 Pitch across wide water spaces 14 7/8 x 8 7/8 Working pressure {front 186 back 186

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

Centre 8 3/8 x 1 3/4 Length as per Rule 31 1/2 Distance apart 9 7/8 No. and pitch of stays

Each Three 7 7/8 Working pressure by Rules 184 Combustion chamber plates: Material Steel

Side strength 26/30 Thickness: Sides 2 1/32 Back 1 9/32 Top 2 1/32 Bottom 2 1/32

How are stays fitted with nuts or riveted over nuts

Working pressure by Rules 184 Front plate at bottom: Material Steel Tensile strength 26/30

Thickness 3/8 Lower back plate: Material Steel Tensile strength 26/30 Thickness 3/4

How are stays fitted with nuts or riveted over nuts

Working Pressure 181 Main stays: Material Steel Tensile strength 28/32

Area supported by each stay 17 1/4 x 19 1/2

No. of threads per inch 6

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

Area supported by each stay 7 3/4 x 8 1/2

No. of threads per inch 9

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Working pressure by Rules 190 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 10 9/16 x 8 1/2 Working pressure by Rules 202

Tubes: Material Iron External diameter ^{Plain} 3 1/4 ^{Stay} 3 1/4 Thickness 7/16 3/8 7/16 No. of threads per inch 9

Pitch of tubes 4 7/16 x 4 7/16 Working pressure by Rules 240 Manhole compensation: Size of opening 13 x 16 1/2

shell plate 13 x 16 1/2 Section of compensating ring 14 3/16 x 1 13/32 No. of rivets and diameter of rivet holes 28 1 3/32

Outer row rivet pitch at ends 9 5/8 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 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 _____

Rules _____ Pressure to which the safety valves are adjusted _____ Hydraulic test pressure _____

tubes _____ castings _____ and after assembly in place _____ Are drain cocks or valves 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 RICHARDSONS, WESTGARTH & Co. LIMITED,
L. S. Sample Manufacturer

Dates of Survey ^{During progress of work in shops - -} See Report on Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) _____

^{while building} ^{During erection on board vessel - - -} Machinery attached Total No. of visits _____

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

These boilers have been built under Special Survey. The materials and workmanship are good. On completion they satisfactorily withstood 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 Ships

Committee's Minute FRI. JAN. 4 1924

Assigned See other rpt of same No. of Ardb. 11751

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