

REPORT ON BOILERS.

No. 16124

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) Tons { Gross 9925 Net 1465 }
 Built 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
 Nominal Horse Power 335 Owners Furness Withy & Co Ltd. Port belonging to Newcastle

ULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel J. Opener & Sons (Letter for Record S)
 Heating Surface of Boilers 5679 sq ft Is forced draught fitted no Coal or Oil fired coal
 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 yes
 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 yes 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. Tub R Lap }
 Long. seams J.R. D.B.S. Diameter of rivet holes in { circ. seams END 1 5/16 INTER 1 13/32 } Pitch of rivets { END 3 3/8 INTER 4 5/8 }
 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 207
 Plates in steam space: Material Steel Tensile strength 26/30 Thickness 1 1/2" front 1 1/8" back Pitch of stays 17 1/4" x 19 1/2"
 Are stays secured by nuts & washers Working pressure by Rules 181
 Front plates: Material { front Steel back Steel } Tensile strength { 26/30 } Thickness { 3/4" }
 Pitch of stay tubes in nests 10 13/32" Pitch across wide water spaces 14 1/4" x 8 7/8" Working pressure { front 186 back 186 }
 Plates 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 21/32" Back 19/32" Top 21/32" Bottom 21/32"
 Pitch of stays to ditto: Sides 7 7/8" x 9 7/8" Back 7 3/4" x 8 1/2" Top 7 7/8" x 9 7/8" 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 3/4" Lower back plate: Material Steel Tensile strength 26/30 Thickness 3/4"
 Pitch of stays at wide water space 13 3/8" x 8 1/2" Are stays fitted with nuts or riveted over nuts
 Working Pressure 181 Main stays: Material Steel Tensile strength 28/32
 Diameter { At body of stay, 2 7/8" Over threads 2 7/8" } No. of threads per inch 6 Area supported by each stay 17 1/4" x 19 1/2"
 Working pressure by Rules 181 Screw stays: Material Steel Tensile strength 26/30
 Diameter { At turned off part, 1 1/2" Over threads 1 1/2" } No. of threads per inch 9 Area supported by each stay 7 3/4" x 8 1/2"

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 Over threads 1 3/4 ✓

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 ✓ 1/2 ✓ 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 ✓

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 13/32 ✓

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 safety _____

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.

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 Arch. 11751

TUE MAR 11 1924

FRI 23 MAY 1924

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