

REPORT ON BOILERS.

No. 17732

SEP 9 1937

Received at London Office SEP 30 1937

Date of writing Report 28-8-1937, When handed in at Local Office 7-9-1937 Port of West Hartlepool

No. in Reg. Book. Survey held at Hartlepool Date, First Survey 21-6-37 Last Survey 26-8-1937

on the Steamer "Kingston Amber" (Number of Visits 9) Tons { Gross Net

Master Built at South Bank By whom built Smith's Dock Co Ltd Yard No. 1047 When built 1937

Engines made at South Bank By whom made Smith's Dock Co Ltd Engine No. 514 When made 1937

Boilers made at Hartlepool By whom made Richardsons, Westgarth & Co. Ltd Boiler No. D514 When made 1937

Nominal Horse Power Owners Kingston Steam Trawling Co Ltd Port belonging to Hull

MULTITUBULAR BOILERS—MAIN, ~~AUXILIARY~~, OR ~~DONKEY~~.

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

Total Heating Surface of Boilers 2,500 sq. ft. Is forced draught fitted yes Coal or Oil fired coal

No. and Description of Boilers One Marine cylindrical, Multitubular, Return type Working Pressure 225 lbs

Tested by hydraulic pressure to 388 lbs Date of test 19-8-37 No. of Certificate 3873 Can each boiler be worked separately

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler 2 2 1/2" High Lift

Area of each set of valves per boiler { per Rule 6.51 as fitted 9.8 Pressure to which they are adjusted 230 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 12" Is oil fuel carried in the double bottom under boilers

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

Largest internal dia. of boilers 15'-6" Length 11'-0" Shell plates: Material steel Tensile strength 29-32 tons

Thickness 1 7/32" Are the shell plates welded or flanged no Description of riveting: circ. seams { end lap joint. D. riveted inter. 3 7/8"

long. seams S. B. S. Treble riveted Diameter of rivet holes in { circ. seams 1 7/16" long. seams 1 1/2" Pitch of rivets { 10 1/8"

Percentage of strength of circ. end seams { plate 62.9 rivets 43.2 Percentage of strength of circ. intermediate seam { plate rivets

Percentage of strength of longitudinal joint { plate 85.18 rivets 84.74 combined 87.2 Working pressure of shell by Rules 225.8 lbs

Thickness of butt straps { outer 1 3/16" inner 1 5/16" No. and Description of Furnaces in each Boiler 3, Morrison type 3 cf

Material steel Tensile strength 26-30 tons Smallest outside diameter 44 7/8"

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 225.8 lbs

End plates in steam space: Material steel Tensile strength 26-30 tons Thickness 1 5/16" Pitch of stays 20" x 17 1/2"

How are stays secured Double nuts & washers Working pressure by Rules 228 lbs

Tube plates: Material { front back Steel Tensile strength { 26-30 tons Thickness { centre 2 7/32" wings 7/8"

Mean pitch of stay tubes in nests 10 9/16" Pitch across wide water spaces 14 1/2" x 9 1/4" Working pressure { front 234 lbs back 230 lbs

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

at centre 2 plates 9 3/8" x 7/8" Length as per Rule 34 1/32" Distance apart 9' No. and pitch of stays

in each 3 x 8" Working pressure by Rules 229 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"

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

Working pressure by Rules 228 lbs Front plate at bottom: Material steel Tensile strength 26-30 tons

Thickness 1" Lower back plate: Material steel Tensile strength 26-30 tons Thickness 1 5/16"

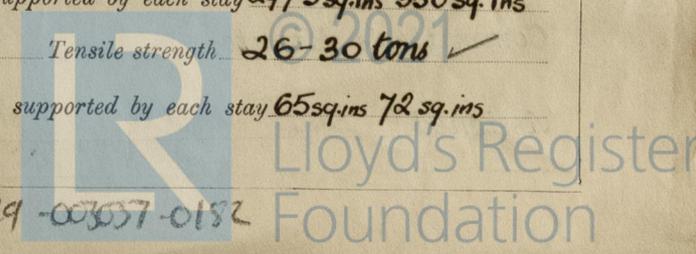
Pitch of stays at wide water space 15 1/2" x 8" Are stays fitted with nuts or riveted over nuts

Working Pressure 237 lbs Main stays: Material steel Tensile strength 28-32 tons

Diameter { At body of stay, or Over threads 3" & 3 1/4" No. of threads per inch 6 Area supported by each stay 297.5 sq. ins 350 sq. ins

Working pressure by Rules 226 lbs, 229 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 65 sq. ins 72 sq. ins



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Working pressure by Rules 234 lbs. Are the stays drilled at the outer ends no. Margin stays: Diameter ^{At turned off part.} 1 7/8" _{or Over threads}

No. of threads per inch 9 Area supported by each stay 90 sq. ins Working pressure by Rules 236 lbs.

Tubes: Material Iron External diameter ^{Plain} 3 1/2" _{Stay} 3 1/2" Thickness ^{W.G.} 7/16", 3/8", 5/16" No. of threads per inch 9

Pitch of tubes 4 3/4" x 4 5/8" Working pressure by Rules 260 lbs. Manhole compensation: Size of opening in shell plate 20 1/2" x 14" Section of compensating ring 36" x 32" x 1 1/2" No. of rivets and diameter of rivet holes 30. 1 1/2"

Outer row rivet pitch at ends 10 1/8" Depth of flange if manhole flanged. Steam Dome: Material steel

Tensile strength 26-30 tons Thickness of shell 15/16" Description of longitudinal joint Treble riveted lap joint

Diameter of rivet holes 1 3/16" Pitch of rivets 4 1/4" Percentage of strength of joint ^{Plate} 72.65 _{Rivets} 73.7

Internal diameter 36" Working pressure by Rules 515 lbs. Thickness of crown 1" No. and diameter of stays

How connected to shell Riveted Inner radius of crown 36" Working pressure by Rules 292 lbs.

Size of doubling plate under dome 36 1/2" dia x 1 1/8" to 7/8" collar ring Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell 1 5/16" - 9.07"

Type of Superheater Smoke tube Manufacturers of Tubes The Superheater Co. Ltd Steel forgings do. Steel castings

Number of elements 49 Material of tubes solid drawn steel Internal diameter and thickness of tubes 20 7/8" 2 1/2 7/8"

Material of headers steel forgings Tensile strength Thickness 1 3/8" 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 1 1/2" dia Are the safety valves fitted with easing gear yes Working pressure as per Rules 225 lbs Pressure to which the safety valves are adjusted 230 lbs Hydraulic test pressure: tubes forgings and castings and after assembly in place 675 lbs sq. in. 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

The foregoing is a correct description,
for RICHARDSON, WESTGARTH & Co. LIMITED.
[Signature] Manufacturer.

Dates of Survey ^{During progress of work in shops} 1932. Jan. 21. July 5. 11. 21. 27. Aug. 12. 18. 19. 26. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

^{while building} _{board vessel} yes Total No. of visits 9

Is this Boiler a duplicate of a previous case yes If so, state Vessel's name and Report No. Sh Dugo. W. Hpl Rpt No 17644.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This Boiler has been constructed under Special Survey and in accordance with the approved plan for a working pressure of 225 lbs per sq. inch. The materials and workmanship have been found good.

Upon completion the Boiler was tested in the presence of the undersigned with hydraulic pressure 388 lbs per sq. inch. showed no signs of weakness, and found tight and sound in every respect at that pressure.

The Boiler is to be despatched to the Middlesbrough district.

This boiler has been installed under Special Survey, examined & found satisfactory under steam & the safety valves adjusted as above.

[Signature]

Survey Fee £ 16 : 13 : 0 } When applied for, 19

Travelling Expenses (if any) £ : : } When received, 15-Sept 1932

J. Brooke Smith & G. Clark Vaux
Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute FRI 15 OCT 1937

Assigned Su Mdb. 16115

