

REPORT ON BOILERS.

Received at London Office 28 JUL 1925

Date of writing Report 8 July 1925 When handed in at Local Office 27 July 1925 Port of

No. in Reg. Book. 6588 on the Hartlepool S S "MANCHESTER CITIZEN" Date, First Survey Last Survey 192

(Number of Visits) Tons { Gross 5110 Net 3065

Master Built at Middlesbrough By whom built Furness S.B.C. & Co. Yard No. 80 When built 1925

Engines made at Hartlepool By whom made Richardsons Westgarth & Co. Ltd Engine No. 2649 When made 1925

Boilers made at ditto By whom made ditto Boiler No. 2649 When made 1925

Nominal Horse Power Owners Manchester Liners Ltd Port belonging to Manchester

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

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

Total Heating Surface of Boilers 10300 sq. ft. Is forced draught fitted Yes Coal or Oil fired either

No. and Description of Boilers Three single ended Working Pressure 190 lb

Tested by hydraulic pressure to 335 lb Date of test 3.3.25 No. of Certificate 3656 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 79.6 sq. ft. No. and Description of safety valves to each boiler 2 Cockburns high lift

Area of each set of valves per boiler { per Rule 16.75 as fitted 16.8 Pressure to which they are adjusted 195 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 17'-3 1/8" Length 12'-0" Shell plates: Material Steel Tensile strength 29/33

Thickness 1 7/16" Are the shell plates welded or flanged no Description of riveting: circ. seams { end D.R. Lap inter. H" Pitch of rivets { 9 3/4"

long. seams J.R. D.B.S. Diameter of rivet holes in { circ. seams 1 7/16" long. seams 1 7/16" Percentage of strength of circ. end seams { plate 64 rivets 44.6 Percentage of strength of circ. intermediate seam { plate rivets

Percentage of strength of longitudinal joint { plate 85.25 rivets 86.0 combined 87.4 Working pressure of shell by Rules 191

Thickness of butt straps { outer 1 3/32" inner 1 3/32" No. and Description of Furnaces in each Boiler H Deightons 4 c.f.

Material Steel Tensile strength 26/28 Smallest outside diameter 43 3/4"

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

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 208

End plates in steam space: Material Steel Tensile strength 26/30 Thickness 1 3/16" Pitch of stays 19 1/2" x 17 1/2"

How are stays secured Double nuts Working pressure by Rules 191

Tube plates: Material { front Steel back Steel Tensile strength { 26/30 Thickness { 5" 13/16"

Mean pitch of stay tubes in nests 7 3/4" x 8" Pitch across wide water spaces 13 1/2" Working pressure { front 220 back 222

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

at centre 9 x 1 3/4" Length as per Rule 32 1/2" Distance apart 10" No. and pitch of stays

in each Three 8" Working pressure by Rules 197 Combustion chamber plates: Material Steel

Tensile strength 26/30 Thickness: Sides 3/4" Back 19/32" Top 11/16" Bottom 3/4"

Pitch of stays to ditto: Sides 8" x 10" Back 8 1/2" x 7 3/4" Top 8" x 10" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 190 Front plate at bottom: Material Steel Tensile strength 26/30

Thickness 7/8" Lower back plate: Material Steel Tensile strength 26/30 Thickness 13/16"

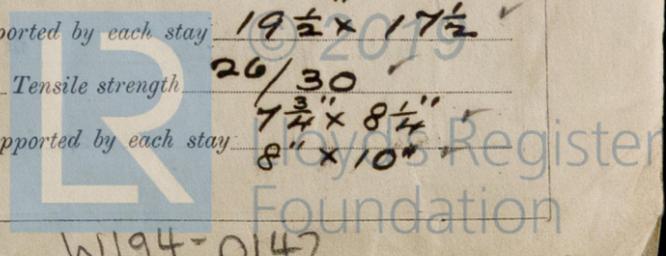
Pitch of stays at wide water space 13 1/4" x 8 1/4" Are stays fitted with nuts or riveted over nuts

Working Pressure 220 Main stays: Material Steel Tensile strength 28/32

Diameter { At body of stay, or Over threads 3" x 2 3/4" No. of threads per inch 6 Area supported by each stay 19 1/2" x 17 1/2"

Working pressure by Rules 197 Screw stays: Material Steel Tensile strength 26/30

Diameter { At turned off part, or Over threads 1 1/2" x 1 5/8" No. of threads per inch 9 Area supported by each stay 7 3/4" x 8 1/4" 8" x 10"



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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 Over threads}

No. of threads per inch 9 Area supported by each stay 8 1/4" x 10 1/2" Working pressure by Rules 193

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

Pitch of tubes 3 3/4" x 3 1/16" Working pressure by Rules 230 Manhole compensation: Size of opening in shell plate 13" x 16 1/2" Section of compensating ring 14 1/8" x 1 7/16" No. of rivets and diameter of rivet holes 30 1 7/16"

Outer row rivet pitch at ends 9 3/4" 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 _____

Type of Superheater _____ 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 _____

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 per 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 RICHARDSONS, WESTGARTH & Co. LIMITED.
Richardson Manufacturer.

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 (If not state date of approval.) _____

Total No. of visits _____

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

See accompanying machinery report

Survey Fee ... £ See Machinery Rpt. When applied for, 192

Travelling Expenses (if any) £ attached. When received, 192

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

Committee's Minute FRI. 28 AUG 1920

Assigned _____

