

REPORT ON MACHINERY.

No. 15528

Port of Hull

Received at London MON. 14 SEP 1903

No. in Survey held at Hull
Reg. Book.Date, first Survey 19th Feb. 1903 Last Survey 10th Sept. 1903Sup. on the Screw Steamer "City of Bradford"
Master W. Howell Built at Hull By whom built Charles J. B. & Co. Ltd. When built 1903
Tons { Gross 1340.8
Net 734.9

Engines made at Hull By whom made Charles J. B. & Co. Ltd. when made 1903

Boilers made at do By whom made do when made 1903

Registered Horse Power Owners Great Central Railway Co Port belonging to Grimsby

H.P. Horse Power as per Section 28 356 Is Refrigerating Machinery fitted No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 24½, 38, 64 Length of Stroke 42 Revs. per minute 102 Dia. of Screw shaft as per rule 12.62 Material of screw shaft as fitted 13½ Iron

Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes Is the after end of the liner made water tight

the propeller boss Yes If the liner is in more than one length are the joints burned If the liner does not fit tightly at the part

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive If two

boilers are fitted, is the shaft lapped or protected between the liners Length of stern bush 5-3

Dia. of Tunnel shaft as per rule 11.8 Dia. of Crank shaft journals as per rule 12.4 Dia. of Crank pin 14 Size of Crank webs 18x9 Dia. of thrust shaft under

bolts 13½ Dia. of screw 13-6 Pitch of screw 16-6 No. of blades 4 State whether moveable Yes Total surface 66 sq. ft.

No. of Feed pumps 2 Diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4½ Stroke 24 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3 Sizes of Pumps One 8"x10½"x18" No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room Two 2½" dia In Holds, &c. After hold, four 2½" dia. Tunnel

No. of bilge injections 1 sizes 8½" Connected to condenser, or to circulating pump Pump Is a separate donkey suction fitted in Engine room & size Yes 3"

Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes Are the sluices on Engine room bulkheads always accessible

Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes Are the discharge pipes above or below the deep water line Both

Are they each fitted with a discharge valve always accessible on the plating of the vessel Yes Are the blow off cocks fitted with a spigot and brass covering plate Yes

That pipes are carried through the bunkers Main + fore hold + Peak suction How are they protected Wood casing

Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times Yes

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges Yes

When were stern tube, propeller, screw shaft, and all connections examined in dry dock How new Is the screw shaft tunnel watertight Yes

Is it fitted with a watertight door Yes worked from Main deck

BOILERS, &c.— (Letter for record (a) Total Heating Surface of Boilers 5152 sq. ft. Is forced draft fitted Yes

No. and Description of Boilers Two J. E. Cyl. Hulls Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs.

Date of test 22.7.03 Can each boiler be worked separately Yes Area of fire grate in each boiler 62.5 sq. ft. No. and Description of safety valves to

each boiler Two direct spring Area of each valve 12.9 Pressure to which they are adjusted 185 lbs. Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 14 Mean dia. of boilers 15-0 Length 12-4 Material of shell plates Steel

Thickness 1½ Range of tensile strength 29-32 Are they welded or flanged Descrip. of riveting: cir. seams J.R. Lap long. seams B.S. 5 Rivets

Diameter of rivet holes in long. seams 17½ Pitch of rivets 9½ Lap of plates or width of butt straps 1-9

Percentages of strength of longitudinal joint rivets 93 Working pressure of shell by rules 207 lbs. Size of manhole in shell 17x12½

Size of compensating ring M'heils No. and Description of Furnaces in each boiler 3 Purvis Material Steel Outside diameter 44½

Length of plain part top 19½ Thickness of plates crown 19½ Description of longitudinal joint welded No. of strengthening rings

Working pressure of furnace by the rules 195 lbs. Combustion chamber plates: Material Steel Thickness: Sides 5/8 Back 9/16 Top 5/8 Bottom 5/8

Pitch of stays to ditto: Sides 8¼x8 Back 7¾x7¾ Top 8¼x8¼ If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 198 lbs.

Material of stays Iron Diameter at smallest part 1½ Area supported by each stay 54 Working pressure by rules 194 lbs. End plates in steam space:

Material Steel Thickness 1½ Pitch of stays 15x15 How are stays secured Bolt Nuts Working pressure by rules 252 lbs. Material of stays Iron

Area at smallest part 6.23 Area supported by each stay 22.5 Working pressure by rules 208 lbs. Material of Front plates at bottom Steel

Thickness 7/8 Material of Lower back plate Steel Thickness 15/16 Greatest pitch of stays 15¾x9½ Working pressure of plate by rules 180 lbs.

Diameter of tubes 2½ Pitch of tubes 3¾x3¾ Material of tube plates Steel Thickness: Front 1½ Back 7/8 Mean pitch of stays 7½

Pitch across wide water spaces 14½ Working pressures by rules 182 lbs. Girders to Chamber tops: Material Steel Depth and

Thickness of girder at centre 11x1¾ Length as per rule 36 Distance apart 8¼ Number and pitch of Stays in each 3 @ 8¼

Working pressure by rules 254 lbs. Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked

separately Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

Holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed

Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

DONKEY BOILER— No. *One* Description *Black's Patent Water Tube, Vertical*
 Made at *Swindon* By whom made *Richardson, Westgate 16-4d* When made *1903* Where fixed *Donkey hole*
 Working pressure *100 lb* Tested by hydraulic pressure to *200 lb* No. of Certificate *3017* Fire grate area *23 sq ft* Description of safety valves *Direct spring*
 No. of safety valves *Two* Area of each *2.9* Pressure to which they are adjusted *100 lb* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Dia. of donkey boiler *6'-9"* Length *14'-0"* Material of shell plates *Steel* Thickness *7/32"* Range of tensile strength *27-32* Descrip. of riveting long. seams *S.R. Lap* Dia. of rivet holes *5/16"* Whether punched or drilled *Drilled* Pitch of rivets *3"*
 Lap of plating *4'-8"* Per centage of strength of joint *78.7* Thickness of shell crown plates *7/32"* Radius of do. *6'-0"* No. of Stays to do. *3.9*
 Dia. of stays *Two 1.2 x 3/4"* Diameter of furnace Top *2'-9"* Bottom *5'-5 1/2"* Length of furnace *5'-1"* Thickness of furnace plates *1/16"* Description of joint *J.R. Lap* Thickness of furnace crown plates *1/16"* Stayed by *✓* Working pressure of shell by rules *107 1/2 lb*
 Working pressure of furnace by rules *110 lb* Diameter of tube *4"* Thickness of tube plates *3/4" + 1/16"* Thickness of stay tubes *3/8"*

SPARE GEAR. State the articles supplied: *Two top-end and two bottom-end connecting rod bolts + nuts. Two main bearing bolts + nuts. One set of coupling bolts + nuts. One set of bilge + feed pump valves. Two main + two donkey feed check valves. Bolts + nuts assorted etc.*

The foregoing is a correct description,

J. J. Dalshorpe SECRETARY Manufacturer.

Dates of Survey while building
 During progress of work in shops - *1903: - Feb 19, Mar 2, 10, 13, 20, 25, 27, Apr. 6, 24, May 15, 20, June 5, 11, 22, 30*
 During erection on board vessel - *July 2, 11, 16, 23, 29, Aug. 10, 12, 14, 21, 25, 28, Sept 10.*
 Total No. of *s 27*

Is the approved plan of main boiler forwarded herewith *See Note*

" " " donkey " " " *No*

General Remarks (State quality of workmanship, opinions as to class, &c.)

The Engines and Boilers of this vessel have been constructed under Special Survey, are of good material and workmanship, and have been fitted and secured on board in accordance with the Society's Rules. They are now in safe working condition and in my opinion eligible to have the notation of +LMC 9.03 in the Register Book.

Note! The approved plan of main boilers forwarded with 1st Entry Report N:15442 on T.S. "City of Leeds". An approved plan of amended arrangement of screw stays of main boilers of T.S. "City of Bradford" forwarded herewith. In other respects the Engines and boilers of these two vessels are alike.

It is submitted that this vessel is eligible for
THE RECORD. - LMC. 9.03 FD ELEC LIGHT.

Bal

14.9.03

The amount of Entry Fee... £ *3* : - : - When applied for,
 Special ... £ *37* : *16* : - *12/11/1903*
 Donkey Boiler Fee ... £ - : - : - When received,
 Travelling Expenses (if any) £ - : - : - *14.9.03*

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

TUES. 15 SEP 1903

Assigned

+LMC. 9.03
F. D.
Elect. light.

MACHINERY CERTIFICATE
 WRITTEN



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 Foundation