

REPORT ON MACHINERY.

Port of Belfast Received at London Office MUN. 29 DEC 1902

No. in Survey held at Belfast Date, first Survey 3 July Last Survey 20 Dec 1902

Reg. Book. AB 3 (Number of Visits 52)

on the Marere Tons Gross 6443 Net 4159

Master Belfast Built at Belfast By whom built Workman, Clark & Co. When built 1902

Engines made at Belfast By whom made Workman, Clark & Co. when made 1902

Boilers made at Belfast By whom made Workman, Clark & Co. when made 1902

Registered Horse Power 583 Owners Cyprus Line Ltd Port belonging to London

Nom. Horse Power as per Section 28 583 Is Refrigerating Machinery fitted Yes Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders Six

Dia. of Cylinders 20-33-56 Length of Stroke 45 Revs. per minute 45 Dia. of Screw shaft 12.36 as per rule 12.36 as fitted 12.36 Lgth. of stern bush 4.6

Dia. of Tunnel shaft 11.5 as per rule 11.5 Dia. of Crank shaft journals 12.0 as per rule 12.0 Dia. of Crank pin 12 Size of Crank webs 2.8 x 8.4 Dia. of thrust shaft under collars 12 Dia. of screw 14-9 Pitch of screw 18-0 No. of blades 3 State whether moveable Yes Total surface 58 sq ft.

No. of Feed pumps 2 Diameter of ditto 3.5 Stroke 24 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 5 Stroke 24 Can one be overhauled while the other is at work Yes

No. of Donkey Engines Four Sizes of Pumps Ballast 10 x 10 x 10 1/2 inch pump and size of Suctions connected to both Bilge and Donkey pumps 1 inch 10-32 and 1-22

In Engine Room 3-32 In Holds, &c. 10-32 and 1-22

No. of bilge injections Two sizes 6.5 Connected to condenser, or to circulating pump Yes Is a separate donkey suction fitted in Engine room & size 1.5-32

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 None

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 Below

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

Are that pipes are carried through the bunkers Forehold Suctions 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 12 Dec 1902 Is the screw shaft tunnel watertight Tested & OK

Is it fitted with watertight doors Yes worked from Upper deck

BOILERS, &c.—(Letter for record 5) Total Heating Surface of Boilers 8266 sq ft. Is forced draft fitted Yes

No. and Description of Boilers 4 Single Ended Cylinders Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs

Date of test 18-11-02 Can each boiler be worked separately Yes Area of fire grate in each boiler 52.35 sq ft. No. and Description of safety valves to each boiler Two Direct Spring Pressure to which they are adjusted 205 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork Butt 22 Mean dia. of boilers 13-9 Length 11-6 Material of shell plates Steel

Thickness 1/32 Range of tensile strength 28-32 Are they welded or flanged No Descrip. of riveting: cir. seams Top & Bottom long seams Butt Seams Double

Diameter of rivet holes in long. seams 1/32 Pitch of rivets 9 3/4 Lap of plates or width of butt straps 20 3/8

Percentages of strength of longitudinal joint rivets 84.9 Working pressure of shell by rules 230 lbs Size of manhole in shell 16 x 12

No. of compensating ring McNeill No. and Description of Furnaces in each boiler 3-Deighton Material Steel Outside diameter 43 1/4

Length of plain part 6 Thickness of plates 3/8 Description of longitudinal joint Weld No. of strengthening rings 4

Working pressure of furnace by the rules 225 Combustion chamber plates: Material Steel Thickness: Sides 3/8 Back 5/8 Top 3/8 Bottom 1

No. of stays to ditto: Sides 8 x 7 Back 8 x 6 Top 8 x 7 If stays are fitted with nuts or riveted heads Nuts used Working pressure by rules 211 lbs

Material of stays Steel Diameter at smallest part 1 1/2 Area supported by each stay 64 sq in Working pressure by rules 220 lbs End plates in steam space: Material Steel Thickness 1/8 Pitch of stays 6 1/2 x 15 How are stays secured Nuts used Working pressure by rules 262 lbs

Diameter at smallest part 2 1/2 Area supported by each stay 252 sq in Working pressure by rules 286 lbs Material of Front plates at bottom Steel

Thickness 1 Material of Lower back plates Steel Thickness 3/4 Greatest pitch of stays 16 Working pressure of plate by rules 58 lbs

Diameter of tubes 2 1/2 Pitch of tubes 3 1/2 x 3 1/2 Material of tube plates Steel Thickness: Front 5/8 Back 1 1/8 Mean pitch of stays 1 1/2 x 7 1/4

Distance across wide water spaces 13 1/2 Working pressures by rules 338 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 8 1/2 x 4 1/2 x 2 Length as per rule 28 1/2 Distance apart 4 1/2 x 7 1/2 Number and pitch of Stays in each 3-7

Working pressure by rules 221 lbs Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked

Material Steel Diameter 16 Length 16 Thickness of shell plates 3/8 Material Steel Description of longitudinal joint Weld Diam. of rivet 1/2

Pitch of rivets 1 1/2 Working pressure of shell by rules 230 lbs Diameter of flue 16 Material of flue plates Steel Thickness 3/8

End plates: Thickness 1 1/2 How stayed With 4 stays

Working pressure of end plates 221 lbs Area of safety valves to superheater 10-32 and 1-22 Are they fitted with easing gear Yes

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DONKEY BOILER—

No. *None* Description

Made at _____ By whom made _____ When made _____ Where fixed _____
Working pressure _____ tested by hydraulic pressure to _____ No. of Certificate _____ Fire grate area _____ Description of safety valves _____
No. of safety valves _____ Area of each _____ Pressure to which they are adjusted _____ If fitted with easing gear _____ If steam from main boiler
enter the donkey boiler _____ Dia. of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____ Range of t
strength _____ Descrip. of riveting long. seams _____ Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____
Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Thickness of shell crown plates _____ Radius of do. _____ No. of Stays to do. _____
Dia. of stays _____ Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Descript
joint _____ Thickness of furnace crown plates _____ Stayed by _____ Working pressure of shell by rules _____
Working pressure of furnace by rules _____ Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____

SPARE GEAR. State the articles supplied:

*Propeller shaft; 2 cast iron propeller blades; screw
cranks pin bushes; pair piston rod bushes; air pump rod & bucket; two sh
valve spindles; sets packing rings for all glands; escape valve & pump; b
condensers tubes, set² and all gear to Lloyd's Rules extra.*

The foregoing is a correct description,
FOR WORKMAN, CLARK & CO., LIMITED.

Manufacturer.

Dates of Survey while building { During progress of work in shops - - } *July 3, Aug 4, 12, 15, 20, 25, 29, Sept 3, 13, 18, 23, 29, Oct 1, 12*
{ During erection on board vessel - - } *10, 14, 16, 18, 22, 24, 28, 30, Nov 3, 5, 6, 10, 12, 14, 17, 18, 19, 20, 21*
Total No. of visits *52* *up to Dec 20*

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

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

Material of screw shaft *Hydr. Press² Iron Steel* 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 in the propeller boss *Yes* If the liner is in more than one length are the joints burned *Yes*
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
non-corrosive *Yes* If two liners are fitted, is the shaft lapped or protected between the liners *Yes*

The machinery of this vessel has been constructed under Special Survey, and in accordance with the Rules. The material and workmanship is of good description and on trial in Belfast Lough the machinery was satisfactory.

In my opinion it is eligible to have record + L.M.C. 12-0 in the Register Book, and Forced Draft Electric Light & Refryg Machinery.

It is submitted that
this vessel is eligible for
THE RECORD. + L.M.C. 12.02 ; FD; Elec. light; ref. m

The amount of Entry Fee. £ 3 : - : When applied for, *22-12-02*
Special . . . £ 49. 3 : :
Donkey Boiler Fee . . . £ : : : When received, *7-1-03*
Travelling Expenses (if any) £ : : : *5-10-03*

Committee's Minute

TUES. 30 DEC 1902

Assigned

+ L.M.C. 12, 02

Engineer Surveyor to Lloyd's Register of British & Foreign Ships



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FoundationMACHINERY CERTIFICATE
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