

REPORT ON MACHINERY.

No. 22614
WED. 14 FEB 1906

Port of Sunderland

Received at London Office 19

Survey held at Sunderland Date, first Survey 1st September 05 Last Survey 1st February 1906
(Number of Visits 50)

in the S. S. "Ludgate" Tons { Gross 3708.46
Net 2390.03
Built at Sunderland By whom built Messrs Bartram & Sons When built 1906

made at Sunderland By whom made Messrs J. Dickinson & Sons when made 1906
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Horse Power _____ Owners Dowgate Steamship Co. Ltd. Port belonging to London
Power as per Section 28 313 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

Engines, &c.—Description of Engines Inverted triple expansion No. of Cylinders 3 No. of Cranks 3
Cylinders 24 1/2, 40, 66 Length of Stroke 45 Revs. per minute 70 Dia. of Screw shaft as per rule 13 7/8 Material of Iron
as fitted 14 screw shaft)
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
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
bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes If two
fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 4' 9"

Propeller shaft as per rule 12.21 Dia. of Crank shaft journals as per rule 12.87 Dia. of Crank pin 12 7/8 Size of Crank webs 23 1/2 x 8 1/4 Dia. of thrust shaft under
as fitted 12.25 as fitted 12 7/8
Dia. of screw 17.0 Pitch of screw 17.6 No. of blades 4 State whether moveable no Total surface 85.5

Donkey pumps 2 Diameter of ditto 3 1/2 Stroke 22 1/2 Can one be overhauled while the other is at work Yes
Main pumps 2 Diameter of ditto 4 1/2 Stroke 22 1/2 Can one be overhauled while the other is at work Yes

Donkey Engines 2 Sizes of Pumps 8x10x10 & 6x4x6 No. and size of Suctions connected to both Bilge and Donkey pumps
Room 4 of 3 1/2 In Holds, &c. 2 of 3 1/2 in each & 1 of 3 1/2
tunnel well

Water injections one size 4 Connected to condenser, or to circulating pump no Is a separate donkey suction fitted in Engine room & size 4
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 Yes

Connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks both
Are they 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 above

Are they 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
How are they protected Yes

Are they carried through the bunkers no How are they protected Yes
Are cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times Yes
Are large suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges Yes

Are stern tube, propeller, screw shaft, and all connections examined in dry dock new Is the screw shaft tunnel watertight Yes
with a watertight door Yes worked from top platform

Boilers, &c.— (Letter for record 5) Total Heating Surface of Boilers 4774 Is forced draft fitted no
Description of Boilers 2 single ended cylindrical Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs

Can each boiler be worked separately Yes Area of fire grate in each boiler 71 No. and Description of safety valves to 2 spring
Area of each valve 8.29 Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes

Distance between boilers or uptakes and bunkers or woodwork open sides Mean dia. of boilers 15' 9 7/16 Length 11' 0" Material of shell plates steel
4.6 3/16 deck

Range of tensile strength 20/32 Are they welded or flanged no Descrip. of riveting: cir. seams d.r. lap long. seams double
butt strap
Pitch of rivets 9 5/16 Lap of plates or width of butt straps 20 1/2

Strength of longitudinal joint rivets 92.6 Working pressure of shell by rules 181.5 lbs Size of manhole in shell 16 x 12
plate 85.23

Refrigerating ring 8 3/4 x 1 3/32 No. and Description of Furnaces in each boiler 4 plain Material steel Outside diameter 40 1/4
Main part top 6.25/16 Thickness of plates bottom 7.3 Description of longitudinal joint weld No. of strengthening rings 1

Pressure of furnace by the rules 185 lbs Combustion chamber plates: Material steel Thickness: Sides 11/16 Back 11/16 Top 11/16 Bottom 1 1/16
Stays to ditto: Sides 10 x 9 Back 10 x 9 Top 10 x 9 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180.5 lbs

Stays steel Diameter at smallest part 2.03 Area supported by each stay 90 Working pressure by rules 203 lbs End plates in steam space: steel
Thickness 1 3/32 Pitch of stays 17 1/2 x 18 How are stays secured double nuts Working pressure by rules 184 lbs Material of stays steel
at smallest part 5.57 Area supported by each stay 308.25 Working pressure by rules 180 7/16 Material of Front plates at bottom steel

Material of Lower back plate steel Thickness 27/32 Greatest pitch of stays 13 1/2 x 10 Working pressure of plate by rules 184 lbs
Tubes 3 1/4 Pitch of tubes 4 1/2 x 4 1/2 Material of tube plates steel Thickness: Front 7/8 x 1 3/32 Back 7/8 Mean pitch of stays 9

Are wide water spaces 13 1/4 Working pressures by rules 244 lbs Girders to Chamber tops: Material steel Depth and
girder at centre 7 1/4 x 2 Length as per rule 30 13/32 Distance apart 9 Number and pitch of Stays in each 2-10

Pressure by rules 184 lbs Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked
Diameter _____ Length _____ Thickness of shell plates _____ Material _____ Description of longitudinal joint 2020 Diam. of rivet
Pitch of rivets _____ Working pressure of shell by rules _____ Diameter of flue _____ Material of flue plates _____ Thickness _____
End plates: Thickness _____ How stayed _____

Pressure of end plates _____ Area of safety valves to superheater _____ Are they fitted with easing gear _____
W831-0139

DONKEY BOILER— No. _____ 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 _____
 enter the donkey boiler _____ Dia. of donkey boiler _____ Material of shell plates _____ Thickness _____
 strength _____ Descrip. of riveting long _____ Dia. of rivet holes _____ Whether punched or drilled _____ Pitch _____
 Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Thickness of shell crown plates _____ Radius of do. _____ No. of Stays _____
 Dia. of stays _____ Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____
 joint _____ Thickness of furnace crown plates _____ Stayed by _____ Working pressure of shell by _____
 Working pressure of furnace by rules _____ Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____

SPARE GEAR. State the articles supplied:— 2 Top end, 2 bottom end, 2 Main bearings
 of coupling bolts, 1 Propeller, 1 set feed and bilge pump
 Bolts & Nuts assorted and iron of sizes, 1 Main feed check
 Valve & 1 donkey feed check valve
 The foregoing is a correct description,
 John Gickleson & Co., Limited,
Apichimmon Manufacturer.

Dates of Survey while building
 During progress of work in shops— 1905 Sept: 1, 2, 25, 27, 30, Oct: 3, 5, 10, 11, 12, 13, 16, 17, 19, 23, 24, 27, 30, Nov: 3, 10, 11, 12, 13, 16, 17, 19, 23, 24, 27, 30, Dec: 4, 6, 8, 15, 19, 20, 21, 23, 28, 30, —
 During erection on board vessel — 10, 14, 15, 16, 20, 21, 23, 25, 27, 28, Dec: 4, 6, 8, 15, 19, 20, 21, 23, 28, 30, —
 Total No. of visits 50. Jan: 3, 4, 5, 8, 10, 25, Feb: 1, —
 Is the approved plan of main boiler forwarded herewith " " " donkey " " "

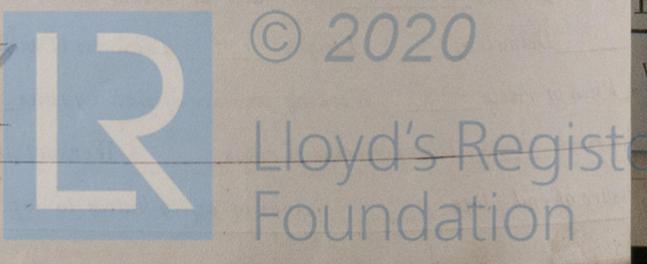
General Remarks (State quality of workmanship, opinions as to class, &c.) The Machinery of this vessel has been constructed under special survey, the workmanship and materials used are both of good quality, the steam pipes have been tested to twice the working pressure proved satisfactory under test, the Engines have been ahead & astern under steam and worked well

I beg to recommend that this vessel is eligible in my opinion to have the record **L.M.C. 206** in the Register Book
 It is submitted that this vessel is eligible for THE RECORD **L.M.C. 206**

The amount of Entry Fee . . . £ 3 : : : When applied for, 13. 2. 1906
 Special £ 35 : 13 : : :
 Donkey Boiler Fee £ : : : :
 Travelling Expenses (if any) £ : : : :
 When received, 15. 5. 1906
 P.M.S. 06. 14. 2. 06
 K.W. Coomber, Engineer Surveyor to Lloyd's Register of British & Foreign Vessels

Committee's Minute **FRI. 16 FEB 1906**
 Assigned **+ L.M.C. 206**
 MACHINERY CERTIFICATE WRITTEN

Certificate (if required) to be sent to
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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