

REPORT ON MACHINERY.

No. 5963

WED. 4 OCT 1905

Port of Belfast

Received at London Office _____ 19__

No. in Survey held at Belfast Date, first Survey Dec-7-1904 Last Survey 28 Apr 1905
 Reg. Book. A.S.B. Delta (Number of Visits 75)
 on the A.S.B. Delta Gross 8052 Tons Net 4743
 Master A.L. Daniel Built at Belfast By whom built Workman Clark & Co Ltd When built 1905
 Engines made at Belfast By whom made Workman Clark & Co Ltd when made 1905
 Boilers made at _____ By whom made _____ when made _____
 Registered Horse Power _____ Owners Peninsular & Oriental S. N. Coy Ltd Belonging to Belfast
 Nom. Horse Power as per Section 28 1251 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Twin Screw Quadruple Expansive of Cylinders 8 No. of Cranks 8
 Dia. of Cylinders 25 1/2 - 36 1/2 - 52 - 74 length of Stroke 51 Revs. per minute 86 Dia. of Screw shaft 14 1/2 as per rule 14 1/2 Material of Steel
 as fitted 15 1/2 screw shaft
 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 ✓ 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
 liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 62
 Dia. of Tunnel shaft 13 7/8 as per rule 14 0 Dia. of Crank shaft journals 14 4/6 as per rule 14 4/6 Dia. of Crank pin 14 7/8 Size of Crank web 20 1/2 x 10 1/2 Dia. of thrust shaft under
 collars 14 1/2 Dia. of screw 16 1/2 Pitch of screw 20 1/2 No. of blades 3 State whether moveable Yes Total surface 66 sq ft
 No. of Feed pumps } Diameter of ditto _____ Stroke _____ Can one be overhauled while the other is at work Yes
 No. of Bilge pumps } None on Main Engines Diameter of ditto _____ Stroke _____ Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 2 Small Pumps No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 4 - 3 1/2 In Holds, &c. 9 - 3 1/2 + 2 - 3 1/2

No. of bilge injections 2 sizes 1 1/2 Connected to condenser, or to circulating pump Condenser Are separate donkey suction fitted in Engine room & size Yes - 3 1/2
 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 Yes
 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
 What pipes are carried through the bunkers Fore Hold suction How are they protected Wood Casings
 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 Before launching the screw shaft tunnel watertight Stated to be
 Is it fitted with a watertight door Yes worked from Top Platform Engine Room

BOILERS, &c.— (Letter for record 3) Total Heating Surface of Boilers 9106 sq ft Is forced draft fitted Yes
 No. and Description of Boilers 2 Double End Cylinders Working Pressure 215 lbs tested by hydraulic pressure to 430 lbs
 Date of test 28-6-15 Can each boiler be worked separately Yes Area of fire grate in each boiler 114 sq ft No. and Description of safety valves to
 each boiler 3 Three Direct Spring Area of each valve 14 1/2 sq in Pressure to which they are adjusted 215 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers 11" Mean dia. of boilers 14 8" Length 20 1/2 Material of shell plates Steel
 Thickness 1 1/2 Range of tensile strength 30-33 Are they welded or flanged No Descrip. of riveting: cir. seams Lap Dr J long. seams Butt J
 Diameter of rivet holes in long. seams 1 7/8 Pitch of rivets 10 7/8 Lap of plates or width of butt straps 22 1/2
 Per centages of strength of longitudinal joint rivets 94 1/6 Working pressure of shell by rules 246 lbs Size of manhole in shell 16 x 12
 plate 8 1/4 x 4 No. and Description of Furnaces in each boiler 3 - Mannesmann Material Steel Outside diameter 45 1/2
 Length of plain part 3 Thickness of plates 3/4 Description of longitudinal joint Weld No. of strengthening rings 2 1/2
 Working pressure of furnace by the rules 247 lbs Combustion chamber plates: Material Steel Thickness: Sides 3/2 Back 3/2 Top 3/2 Bottom 7/8
 Pitch of stays to ditto: Sides 8 1/2 x 8 Back 8 1/2 x 7 1/2 Top 8 1/2 x 6 1/2 If stays are fitted with nuts or riveted heads Nuts inside Working pressure by rules 226 lbs
 Material of stay Steel Diameter at smallest part 1 1/2 Area supported by each stay 66 sq in Working pressure by rules 240 lbs End plates in steam space:
 Material Steel Thickness 1 1/2 Pitch of stays 18 x 16 How are stays secured Nuts inside Working pressure by rules 294 lbs Material of stays Steel
 Diameter at smallest part 2 1/2 supported by each stay 288 sq in Working pressure by rules 251 lbs Material of Front plates at bottom Steel
 Thickness 7/8 Material of Lower back plate Steel Thickness 2 1/2 Greatest pitch of stays 1 1/2 Working pressure of plate by rules 224 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 3/4 Mean pitch of stays 7 1/2 x 4 1/2
 Pitch across wide water spaces 13 1/2 Working pressures by rules 355 lbs with 3 Double Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 10 1/2 Length as per rule 50 1/2 Distance apart 8 1/2 x 6 Number and pitch of Stays in each 6 - 6
 Working pressure by rules 262 lbs Superheater or Steam chest; how connected to boiler _____ 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. _____ Description None
 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 boilers can enter the donkey boiler _____
 Dia. of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____ Range of tensile 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. _____
 Plates _____
 Dia. of stays. _____ Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of 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:— See other sheet

The foregoing is a correct description,
FOR WORKMAN, CLARK & CO., LIMITED.
M. H. Bell Manufacturer.

Dates of Survey while building
 During progress of work in shops— 1904, Dec^r 7, 14, 16, 1905, Jan^r 3, 5, 9, 12, 18, 24, 27, 31 Feb^r 3, 6, 9,
 During erection on board vessel— 14, 17, 21, 24, 28, March 16, 21, 24, 28 up till Sept^r 28th
 Total No. of visits 75
 Is the approved plan of main boiler forwarded herewith Yes
 " " " donkey " " " Yes

General Remarks (State quality of workmanship, opinions as to class, &c.)
 The machinery of this vessel has been constructed under Special Survey, and in accordance with the Rules. The workmanship, and the materials are of good description throughout, and on trial under steam in Belfast Lough, the machinery worked satisfactorily. In my opinion, it is eligible for notification + L.M.C. 9-05, Forced Draft & Electric Light.

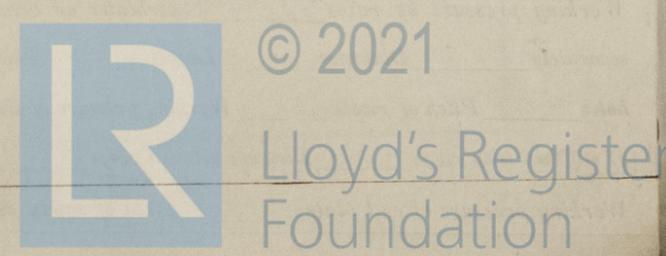
It is submitted that this vessel is eligible for THE RECORD L.M.C. 9.05 F.D. ELEC. LIGHT.

5.10.05
5.10.05

The amount of Entry Fee.. £ 3 : 0 :
 Special .. £ 82 : 11 :
 Donkey Boiler Fee .. £ : :
 Travelling Expenses (if any) £ : :
 When applied for, 2-10-05
 When received, 10.10.05

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

Committee's Minute
 Assigned
 FRI. 27 OCT 1905
 + L.M.C. 9.05
 + D. Elec. Light.



MACHINERY CERTIFICATE WRITTEN

Certificate (if required) to be sent to _____

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U.S.S. DeltaPumps - Main & Auxiliary

3	Wear Feet	15 1/2" x 11" x 24"	Double
1	Ballast	18 1/2" x 13" x 24"	"
1	Lubricating	"	"
1	Riggs	5" x 7" x 8"	"
1	General	"	"

Spare Gear List

- 1 Section Crank Shaft
 - 1 - Propeller Shaft
 - 2 - " " Blades & Studs (2)
 - 1 - Eccentric Pulley
 - 4 - Slide Valve Spindles
 - 1 - 2^d M.P. & 1 - L.P. piston complete.
 - 1 - Piston Rod nuts
 - 1 - Set Piston packing rings for each cylinder.
 - 1 - Fan & spindle for Centrif. Circulating pump.
 - 25 Condenser tubes
 - 25 Boiler tubes
 - 2 Safety valve springs.
- Cylinder escape valve springs, and spare gear for auxiliaries, and all gear required by Rule in addition.

P. J. Pennington