

## REPORT ON MACHINERY.

No. 44593.

Port of Newcastle

WED. 14 SEP 1904

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Reg. Book.

on the S/S Catalina(Number of Visits 25)Master Robert Built at Newcastle By whom built Armstrong Whitworths Tons { Gross 2626 Net 1667 When built 1904Engines made at Newcastle By whom made Wallsend Shipway Co. Ltd. when made 1904Boilers made at " By whom made " when made 1904Registered Horse Power 360 Owners Royal Mail S.M. P. Co. Port belonging to NewcastleHorse Power as per Section 28 360 Is Refrigerating Machinery fitted for cargo purposes — Is Electric Light fitted yesEngines, &c. — Description of Engines Incpd. No. of Cylinders 3 No. of Cranks 3Dia. of Cylinders 25" 41" 68" Length of Stroke 45" Revs. per minute 65 Dia. of Screw shaft 13.9" Material of Steelthe screw shaft fitted with a continuous liner the whole length of the stern tube yes Is the after end of the liner made water tightthe 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 partbetween the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive — If twoboilers are fitted, is the shaft lapped or protected between the liners — Length of stern bush 5' 3"Dia. of Tunnel shaft 12.39" Dia. of Crank shaft journals 12.99" Dia. of Crank pin 13.5" Size of Crank webs 28x8" Dia. of thrust shaft underboilers 13.5" Dia. of screw 17.5" Pitch of screw 17.6" No. of blades 4 State whether moveable f Total surface 90 sqNo. of Feed pumps 2 Diameter of ditto 32" Stroke 24" Can one be overhauled while the other is at work yesNo. of Bilge pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work yesNo. of Donkey Engines 3 Sizes of Pumps 7x4 2x7 11x10 11x10 No. and size of Suctions connected to both Bilge and Donkey pumpsEngine Room 4 of 3" In Holds, &c. 4 of 1. 2. 3-2 of 3 after holdNo. of bilge injections 1 sizes 6" Connected to condenser, or to circulating pump CP 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 bothAre 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 aboveAre 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 yesWhat pipes are carried through the bunkers none How are they protected —Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times yesAre the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges yesWhen were stern tube, propeller, screw shaft, and all connections examined in dry dock revised Is the screw shaft tunnel watertight yesIs it fitted with a watertight door yes worked from top platformBoilers, &c. — (Letter for record S) Total Heating Surface of Boilers 5900 sq Is forced draft fitted noand Description of Boilers 3 S.E. Marine type Working Pressure 180 lb Tested by hydraulic pressure to 360Date of test 5-5-04 Can each boiler be worked separately yes Area of fire grate in each boiler 55 sq No. and Description of safety valves toeach boiler 2 Spring Area of each valve 7 sq Pressure to which they are adjusted 185 Are they fitted with easing gear yesSmallest distance between boilers or uptakes and bunkers or woodwork 2 feet Mean dia. of boilers 13' 11" Length 11 ft Material of shell plates SThickness 1 3/4" Range of tensile strength 24-32 Are they welded or flanged ends Descrip. of riveting: cir. seams 2 x lap long. seams 2 butt strapsDiameter of rivet holes in long. seams 1 5/8" Pitch of rivets 8 1/2" Emp. of plates on width of butt straps 17 1/2"Percentages of strength of longitudinal joint rivets 88 Working pressure of shell by rules 182 Size of manhole in shell 16 x 12of compensating ring 2 heels No. and Description of Furnaces in each boiler 3 forces Material S Outside diameter 44"Length of plain part top — Thickness of plates crown 1 1/2" Description of longitudinal joint Welded No. of strengthening rings —Working pressure of furnace by the rules 186 Combustion chamber plates: Material S Thickness: Sides 1/2" Back 1/2" Top 3/2" Bottom 1/2"No. of stays to ditto: Sides 10 x 8 1/2" Back 10 x 9 1/2" Top 10 x 8 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180 lbMaterial of stays S Diameter at smallest part 1 5/8" Area supported by each stay 92" Working pressure by rules 203 End plates in steam space:Material S Thickness 1 3/2" Pitch of stays 23 x 18 1/2" How are stays secured 2 nuts Working pressure by rules 182 Material of stays SDiameter at smallest part 8 1/4" Area supported by each stay 433 Working pressure by rules 206 Material of Front plates at bottom SThickness 1" Material of Lower back plate S Thickness 3/2" Greatest pitch of stays 13 1/2" Working pressure of plate by rules 180Diameter of tubes 3 1/4" Pitch of tubes 4 1/2 x 4 3/8" Material of tube plates S Thickness: Front 1" Back 3/4" Mean pitch of stays 8 7/8"Pitch across wide water spaces 14" Working pressures by rules 183 Girders to Chamber tops: Material S Depth andThickness of girder at centre 8 3/4 x 1 1/2" Length as per rule 30" Distance apart 10 Number and pitch of Stays in each 2 of 8 1/2"Working pressure by rules 184 Superheater or Steam chest; how connected to boiler — Can the superheater be shut off and the boiler workedseparately — Diameter — Length — Thickness of shell plates — Material — Description of longitudinal joint — Diam. of rivetPitch of rivets — Working pressure of shell by rules — Diameter of flue — Material of flue plates — Thickness —Fitted 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 \_\_\_\_\_

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 \_\_\_\_\_ Rivets \_\_\_\_\_ Dia. of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_

Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ 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 \_\_\_\_\_ 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:— *1 set connecting rod bolts & nuts 2 main bearing bolts & nuts. 1 set coupling bolts & nuts 1 set feed and bilge pump valves propeller and shaft nuts bolts and iron*

The foregoing is a correct description,  
 FOR THE WALLSEND SLIPWAY & ENGINEERING CO. LIMITED, Manufacturer.

Dates { During progress of work in shops- - } *1st Dec 1904 Jan 8 15 20 29 Feb 1 15 29 March 11 15 25 April 11 21 29 May 4 June 5*  
 of Survey { During erection on board vessel - - } *8 Aug 5 11 12 15 15 26 29 Sep 2 7*  
 while building { Total No. of visits *25* } Is the approved plan of main boiler forwarded herewith *yes*

**General Remarks** (State quality of workmanship, opinions as to class, &c. *Machinery and boilers constructed under special survey. Materials and workmanship good. Engines and boilers examined under steam & found satisfactory. In my opinion this vessel is now eligible for the record of L.M.C. 9/04.*)

It is submitted that this vessel is eligible for THE RECORD *L.M.C. 9.04 FLEC: LIGHT.*

*Ans. 14.9.04*

The amount of Entry Fee. . £ *3* . . . . . When applied for, *13/9/1904*  
 Special . . . . . £ *38* . . . . .  
 Donkey Boiler Fee . . . . . £ . . . . . When received, *14/9/04 15/9/04*  
 Travelling Expenses (if any) £ . . . . .

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

Committee's Minute *FRL 16 SEP 1904*  
 Assigned *+ L.M.C. 9.04*

