

## REPORT ON MACHINERY.

No. 12815.

Port of WEST HARTLEPOOL.

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No. in Survey held at West Hartlepool Date, first Survey 16<sup>th</sup> June, 1905 Last Survey 24<sup>th</sup> Jan'y. 1906  
 Reg. Book. 76 on the SS "Clan Macintosh" (Number of Visits 78)  
 Master B. Jones Built at West Hartlepool By whom built Furness, Withy & Co. Ltd Tons { Gross 444.13  
 Engines made at Hartlepool By whom made Richardsons, Westgarth & Co. Ltd when made 1905-6 Net 3043.10  
 Boilers made at Hartlepool By whom made Richardsons, Westgarth & Co. Ltd when made 1905-6  
 Registered Horse Power 448 Owners Cayzer, Furness & Co. Ltd Port belonging to Glasgow  
 Nom. Horse Power as per Section 28 448 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 26" 17 43 17 71 Length of Stroke 48" Revs. per minute 69 Dia. of Screw shaft 14.9" Material of Forged 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 one length 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 7' 5"  
 Dia. of Tunnel shaft 13 1/2" Dia. of Crank shaft journals 14.18" Dia. of Crank pin 15" Size of Crank webs 9 1/2" x 29" Dia. of thrust shaft under  
 collars 16" Dia. of screw 17.9" Pitch of screw 17.9" No. of blades 4 State whether moveable yes Total surface 91 ft  
 No. of Feed pumps 2 Diameter of ditto 4 1/2" Stroke 27" Can one be overhauled while the other is at work yes  
 No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 27" Can one be overhauled while the other is at work yes  
 No. of Donkey Engines four Sizes of Pumps 7 x 21 6 x 4 x 6 11 x 13 x 11 No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room four 3" diam In Holds, &c. Twelve One 2 1/2" dia in fore peak  
Two 3 1/2" dia in each hold and one 2 1/2" dia in tunnel well  
 No. of bilge injections 1 sizes 6 1/2" dia Connected to condenser, or to circulating pump pump Is a 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 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 above  
 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 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 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 engine room top platform.

BOILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 6028 ft Is forced draft fitted Yes  
 No. and Description of Boilers 2 single ended cylindrical multitubular Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs  
 Date of test 7.11.05 Can each boiler be worked separately yes Area of fire grate in each boiler 62.9 ft No. and Description of safety valves to  
 each boiler Two spring loaded Area of each valve 11.045" 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 1' 10" x 2' 0" Mean dia. of boilers 16-2" Length 11-9" Material of shell plates steel  
 Thickness 1 1/16" Range of tensile strength 28-32 Are they welded or flanged No Descrip. of riveting: cir. seams treble long. seams treble  
 Diameter of rivet holes in long. seams 1 7/16" Pitch of rivets 9 3/4" Lap of plates or width of butt straps 21"  
 Per centages of strength of longitudinal joint 85.9 Working pressure of shell by rules 201 lbs Size of manhole in shell 13" x 16 1/2"  
 Size of compensating ring 29" x 30" x 1 1/16" No. and Description of Furnaces in each boiler 3 Morrison Material steel Outside diameter 50 1/2"  
 Length of plain part 7-11 1/2" Thickness of plates 32 Description of longitudinal joint Weld No. of strengthening rings —  
 Working pressure of furnace by the rules 211 lbs Combustion chamber plates: Material steel Thickness: Sides 3/32" Back 21/32" Top 21/32" Bottom 1"  
 Pitch of stays to ditto: Sides 9 x 7 3/4" Back 8 1/4" x 8 3/8" Top 8 1/2" x 8 1/4" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 212 lbs  
 Material of stays steel Diameter at smallest part 1 1/2" Area supported by each stay 70.1" Working pressure by rules 201 lbs End plates in steam space:  
 Material steel Thickness 3/16" x 1/8" Pitch of stays 17" x 17" How are stays secured Iron shims Working pressure by rules 202 lbs Material of stays steel  
 Diameter at smallest part 2 3/4" Area supported by each stay 289" Working pressure by rules 205 lbs Material of Front plates at bottom steel  
 Thickness 7/8" Material of Lower back plate steel Thickness 7/8" Greatest pitch of stays 13 1/2" Working pressure of plate by rules 211 lbs  
 Diameter of tubes 2 1/2" Pitch of tubes 3 1/4" Material of tube plates steel Thickness: Front 1" Back 3/4" Mean pitch of stays 7 1/2"  
 Pitch across wide water spaces 13 1/2" Working pressures by rules 211 lbs Girders to Chamber tops: Material steel Depth and  
 thickness of girder at centre 8" x 1 1/4" Length as per rule 30" Distance apart 8 1/2" Number and pitch of Stays in each Two 8 1/4"  
 Working pressure by rules 208 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 —



