

# REPORT ON MACHINERY.

Port of WEST HARTLEPOOL

THUR. 15 MAY 1902

Received at London Office

No. in Survey held at Hartlepool Date, first Survey 3rd July, 1901 Last Survey 13th May, 1902  
 Reg. Book. Sup 35 on the Steel S.S. "Rapallo" (Number of Visits 89)  
 Master Schumacher Built at N. Hartlepool By whom built Furness, M. & Co. Ltd. When built 1902  
 Engines made at Hartlepool By whom made Richardsons, Hedgark & Co. Ltd. when made 1902  
 Boilers made at Hartlepool By whom made do do when made 1902  
 Registered Horse Power 490 Owners British Maritime Trust Ltd. Port belonging to West Hartlepool  
 Nom. Horse Power as per Section 28 489 Is Refrigerating Machinery fitted  Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders three No. of Cranks three  
 Dia. of Cylinders 28" - 46" - 77" Length of Stroke 48" Revs. per minute 70 Dia. of Screw shaft as per rule 15.1"  
 Dia. of Tunnel shaft as per rule 13.2" Dia. of Crank shaft journals as per rule 14.4" Dia. of Crank pin 14.2" Size of Crank webs 9 1/2" x 23 1/2" Dia. of thrust shaft under collars 15" Dia. of screw 18'-0" Pitch of screw 14'-0" to 20'-0" No. of blades 4 State whether moceable Yes Total surface 90 sq. ft.  
 No. of Feed pumps 2 Diameter of ditto 3 1/2" Stroke 24" Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 24" Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines 2 Sizes of Pumps Feed 5 1/2" x 10 duplex, Ballast 10" x 9" No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room Three 3 1/2" dia. In Holds, &c. Thirteen. — One 2 1/2" dia to fore Peak, two 3 1/2" dia. to No. 1 hold, two 3 1/2" dia to No. 2 hold, two 3 1/2" dia to No. 3 hold, two 3 1/2" dia to No. 4 hold, two 3 1/2" dia to aft hold  
 No. of bilge injections one size 4" Connected to condenser, or to circulating pump in 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 stices 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 -  
 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 New vessel Is the screw shaft tunnel watertight Yes  
 Is it fitted with a watertight door Yes worked from upper platform

BOILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 8140 sq. ft. Is forced draft fitted No  
 No. and Description of Boilers 4 Single ended. Cyl. Mult Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs.  
 Date of test 13-2-02 Can each boiler be worked separately Yes Area of fire grate in each boiler 54 sq. ft. No. and Description of safety valves to each boiler two Spring direct Area of each valve 4.06 sq. in. Pressure to which they are adjusted 185 lbs. Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 23" Mean dia. of boilers 14'-6" Length 10'-6" Material of shell plates steel  
 Thickness 1 1/2" Range of tensile strength 25-32 Are they welded or flanged no Descrip. of riveting: cir. seams treble long. seams treble  
 Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 9 1/2" Lap of plates or width of butt straps 19 1/2"  
 Per centages of strength of longitudinal joint rivets 86.1 plate 85.2 Working pressure of shell by rules 207 lbs. Size of manhole in shell 13" x 16 1/2"  
 Size of compensating ring 30 x 30 x 1 1/2" No. and Description of Furnaces in each boiler 3 Morrison Material steel Outside diameter 45 1/2"  
 Length of plain part top 4'-5 1/2" bottom 4'-5 1/2" Thickness of plates top 9" bottom 9" Description of longitudinal joint weld No. of strengthening rings ✓  
 Working pressure of furnace by the rules 193 lbs. Combustion chamber plates: Material steel Thickness: Sides 5" Back 5" Top 5" Bottom 1 1/2"  
 Pitch of stays to ditto: Sides 7 1/8" Back 7 1/8" Top 7 1/8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 236 lbs.  
 Material of stays steel Diameter at smallest part 1 1/8" Area supported by each stay 55 sq. in. Working pressure by rules 200 lbs. End plates in steam space: Material steel Thickness 1 1/2" Pitch of stays 15 1/4" x 13 1/2" How are stays secured D.N. + N. Working pressure by rules 197 lbs. Material of stays steel  
 Diameter at smallest part 2 1/2" Area supported by each stay 202 sq. in. Working pressure by rules 211 lbs. Material of Front plates at bottom steel  
 Thickness 1 1/2" Material of Lower back plate steel Thickness 2 1/2" Greatest pitch of stays 12 5/8" Working pressure of plate by rules 190 lbs.  
 Diameter of tubes 3 1/2" Pitch of tubes 4 5/8" Material of tube plates steel Thickness: Front 1 1/2" Back 2 1/2" Mean pitch of stays 9 1/4"  
 Pitch across wide water spaces 14 1/2" Working pressures by rules 194 lbs. Girders to Chamber tops: Material steel Depth and thickness of girder at centre 7" x 15 1/8" Length as per rule 29" Distance apart 4 1/2" Number and pitch of Stays in each 2 - 7 1/8"  
 Working pressure by rules 180 lbs. Superheater or Steam chest: how connected to boiler none 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 ✓

If not, state whether, and when, one will be sent? Is a Report also sent on the Hull of the Ship?

