

REPORT ON MACHINERY.

Port of WEST HARTLEPOOL

Received at London Office JUN. JAN 27 1902

Survey held at Hartlepool Date, first Survey 13th April, 1901 Last Survey 20th Jan'y, 1902
 Book. Steel S.S. "Manchester Market" (Number of Visits 72)
 on the Corrie Built at H. Hartlepool By whom built Furness, Withy & Co. Ltd. When built 1902
 nes made at Hartlepool By whom made Richardsons, Westgarth & Co. Ltd. When made 1902
 rs made at do By whom made do when made 1902
 stered Horse Power 374 Owners Manchester Liners Ltd Port belonging to Manchester.
 Horse Power as per Section 28 374 Is Refrigerating Machinery fitted No Is Electric Light fitted Yes.

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders three No. of Cranks three
 of Cylinders 25"-40"-68" Length of Stroke 48" Revs. per minute 65 Dia. of Screw shaft as per rule 14 1/2" Lgth. of stern bush 5'-1 1/2"
 of Tunnel shaft as per rule 12 1/2" Dia. of Crank shaft journals as per rule 13 1/2" Dia. of Crank pin 14" Size of Crank webs 8 1/2" x 20 1/2" Dia. of thrust shaft under
 rs 14" Dia. of screw 14'-6" Pitch of screw 14'-6" No. of blades 4 State whether moveable No Total surface 88.5 sq. ft.
 of Feed pumps 2 Diameter of ditto 3 1/4" Stroke 24" Can one be overhauled while the other is at work Yes.
 of Bilge pumps 2 Diameter of ditto 3 1/4" Stroke 24" Can one be overhauled while the other is at work Yes.
 of Donkey Engines Three Sizes of Pumps Four 4x6 duplex, 10x9" No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room Four 3 1/2" dia. Pair of No. 1 feed pumps 10x9" In Holds, &c. Twelve. — One 2 1/2" to fore peak, two 3 1/2" to No. 1.
 of bilge injections one size 5" Connected to condenser, or to circulating pump circulating pump Is a separate donkey suction fitted in Engine room & size Yes. 3 1/2"
 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
 all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks both
 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
 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.
 at pipes are carried through the bunkers none How are they protected ✓
 all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times Yes.
 the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges Yes.
 en were stern tube, propeller, screw shaft, and all connections examined in dry dock 20. 1. 02. Is the screw shaft tunnel watertight Yes.
 it fitted with a watertight door Yes. worked from upper platform of engine room.

BOILERS, &c.— (Letter for record S.) Total Heating Surface of Boilers 6142 sq. ft. Is forced draft fitted No.
 and Description of Boilers 3 Single ended. Cyl. Mult. Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs.
 te of test 25-9-01 Can each boiler be worked separately Yes. Area of fire grate in each boiler 49 sq. ft. No. and Description of safety valves to
 h boiler 2 Spring direct. Area of each valve 7.07 sq. in. Pressure to which they are adjusted 185 lbs. Are they fitted with easing gear Yes.
 allest distance between boilers or uptakes and bunkers 18" Mean dia. of boilers 14'-0" Length 11'-0" Material of shell plates steel
 ickness 1 1/2" Range of tensile strength 28/32 Are they welded or flanged no Descrip. of riveting: cr. seams treble long. seams treble
 meter of rivet holes in long. seams 1 1/2" Pitch of rivets 9" Lap of plates or width of butt straps 19 3/4"
 rcentages of strength of longitudinal joint 87/83 Working pressure of shell by rules 207 lbs. Size of manhole in shell 13" x 16 1/2"
 e of compensating ring 30" x 30" x 1 1/2" No. and Description of Furnaces in each boiler 3 Morison Material steel Outside diameter 45 1/2"
 ngth of plain part 6" Thickness of plates 9/16" Description of longitudinal joint weld No. of strengthening rings ✓
 orking pressure of furnace by the rules 193 lbs. Combustion chamber plates: Material steel Thickness: Sides 19/32" Back 19/32" Top 19/32" Bottom 15/16"
 ch of stays to ditto: Sides 8 3/4" x 7 1/4" Back 8 1/2" x 7 1/2" Top 8 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 188 lbs.
 aterial of stays steel Diameter at smallest part 1 3/8" Area supported by each stay 63 sq. in. Working pressure by rules 184 lbs. End plates in steam space:
 aterial steel Thickness 1" Pitch of stays 15" x 13 1/4" How are stays secured W. N. & W. Working pressure by rules 190 lbs. Material of stays steel
 ameter at smallest part 2 3/8" Area supported by each stay 206 sq. in. Working pressure by rules 210 lbs. Material of Front plates at bottom steel
 ickness 7/8" Material of Lower back plate steel Thickness 25/32" Greatest pitch of stays 12 3/4" Working pressure of plate by rules 189 lbs.
 ameter of tubes 3 1/2" Pitch of tubes 4 5/8" Material of tube plates steel Thickness: Front 1 1/2" Back 1 3/8" Mean pitch of stays 11 1/8"
 ch across wide water spaces 14 1/2" Working pressures by rules 181 lbs. Girders to Chamber tops: Material steel Depth and
 ickness of girder at centre 4 1/4" x 1 3/4" Length as per rule 31" Distance apart 4 1/2" Number and pitch of Stays in each two 8 1/2"
 orking pressure by rules 184 lbs. Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked
 arately ✓ Diameter ✓ Length ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivet
 es ✓ Pitch of rivets ✓ Working pressure of shell by rules ✓ Diameter of flue ✓ Material of flue plates ✓ Thickness ✓
 stiffened with rings ✓ Distance between rings ✓ Working pressure by rules ✓ End plates: Thickness ✓ How stayed ✓
 orking pressure of end plates ✓ Area of safety valves to superheater ✓ Are they fitted with easing gear ✓

DONKEY BOILER— No. One Description by M. M. M. Made at Newcastle By whom made H. Stephenson & Co. When made 3. 6. 01 Where fixed Slope hold
Working pressure 100 lbs. tested by hydraulic pressure to 200 lbs. No. of Certificate 6084 Fire grate area 35 sq. Description of safety valves Spring direct
No. of safety valves 2 Area of each 7 sq. Pressure to which they are adjusted 100 lbs. If fitted with easing gear Yes If steam from main boiler No. in
enter the donkey boiler No. Dia. of donkey boiler 11' 0" Length 10' 0" Material of shell plates Steel Thickness 1 1/2" Range of temp. 130° to 350°
strength 28/32 Descrip. of riveting long. seams D. strap Dia. of rivet holes 15/16 Whether punched or drilled drilled Pitch of rivets 1 1/2" Owners
Lap of plating 9 3/8" S. Per centage of strength of joint Rivets 44 Plates 45.8 Thickness of shell end crown plates 13/16 Pitch of stays 18" x 15" No. of Stays to do. 1
Dia. of stays. 2" off. Diameter of furnace Top 39" Bottom 37" Length of furnace 48 1/2" Thickness of furnace plates 9/16 Descrip. of
joint D. strap Thickness of furnace crown plates 17/32 Stayed by 1 1/2" off. S. stays Working pressure of shell by rules 11 1/2 lbs.
Working pressure of furnace by rules 11 1/2 lbs. Diameter of tubes 3 1/2" Thickness of tubes 13/32 F 25/32 Thickness of water tubes 1/2" Descrip. of

SPARE GEAR. State the articles supplied:— 2 bon. top + 2 bon. rod bottom end bolts + nuts, 2 Main be
+ one set of coupling bolts, one set of feed, bilge, air + cir. pump valves, assorted
bolts + nuts and iron, propeller, one pair of crank pin bushes, One ecc. strap, one a
+ cir. pump rods, One set of packing rings for H.P. piston, 2 Main + 2 Donkey feed check valve
two safety valve springs
The foregoing is a correct description,
for RICHARDSONS, WESTGARTH & CO. LIMITED
J. C. Harding Manufacturer.

Dates of Survey while building During progress of work in shops— 1901. April 13 May 7. 14 June 3. 13 14 17 26 July 1. 2. 9. 11. 12. 22. 26. 29. Aug. 2. 12. 13. 14. 15. 16. 19.
During erection on board vessel— 27. 28. 29. 30. Sept. 2. 3. 4. 5. 6. 7. 9. 10. 11. 12. 14. 16. 17. 19. 20. 21. 22. 25. 26. 28. 30. Oct. 1. 2. 3. 4. 7. 9. 11. 18. 21. 28.
Total No. of visits 47

General Remarks (State quality of workmanship, opinions as to class, &c.)

Material of screw shaft Iron 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
non-corrosive Yes. If two liners are fitted, is the shaft lapped or protected between the liners

The main steam pipes have been tested by hydraulic pressure to 360 lbs. per sq. in. and found tight.
The engines + Boilers of this vessel, have been built under Special Survey in accordance with the Rules requiring the materials + workmanship are good and efficient when completed and fitted on board were tried under steam at moorings with satisfactory result and, in my opinion, eligible to have notation L.M.C. in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. L.M.C. 1. 02. Dec. light

The amount of Entry Fee, £ 3
Special £ 38 14
Donkey Boiler Fee £
Travelling Expenses (if any) £

Committee's Minute TUES. JAN 28 1902

Assigned

+ L.M.C. 1. 02
elect. light

M. Smith.
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping



Lloyd's Register Foundation