

REPORT ON MACHINERY.

Port of WEST HARTLEPOOL

Received at London Office THUR. 1 SEP 1898

No. in Survey held at West Hartlepool Date, first Survey 13th August 1897 Last Survey 25th August 1898
 Reg. Book. on the Steel S.S. ~~Love~~ Albertville (Number of Visits 107)
 Master H. F. Stubbs Built at Middlesbrough By whom built Sir R Dixon & Co. Ltd When built 1898
 Engines made at Hartlepool By whom made J. Richardson & Sons Ltd. when made 1898
 Boilers made at Hartlepool By whom made J. Richardson & Sons Ltd. when made 1898
 Registered Horse Power _____ Owners La Compagnie Belge Maritime du Congo Port belonging to Anvers.
 Nom. Horse Power as per Section 28 432 Is Electric Light fitted Yes.

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders Three No. of Cranks Three
 Diameter of Cylinders 24" - 43" - 42" Length of Stroke 48" Revolutions per minute 40 Diameter of Screw shaft as per rule 13.9"
 Diameter of Tunnel shaft as per rule 12.6" Diameter of Crank shaft journals 14" Diameter of Crank pin 1 1/2" Size of Crank webs 9" x 22 1/2"
 Diameter of screw 1 1/2" Pitch of screw 18" - 0" No. of blades 4 State whether moveable Yes Total surface 80 sq. ft.
 No. of Feed pumps 2 Diameter of ditto 3 1/2" Stroke 26" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 4" Stroke 26" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines Three Sizes of Pumps Feet 5x10, 6x8, 10x9 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Five 4 wings 3" dia. - one center 2 1/2" dia. In Holds, &c. Main Hold Two wing 3" dia. Forehold 2 wing 3" dia
Aft Hold Two wing 3" dia. Aftermost Hold Two wing 3" dia. Tunnel well one 2 1/2" dia.
 No. of bilge injections one sizes 1 1/2" Connected to condenser, or to circulating pump Yes pumps 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 new vessel Is the screw shaft tunnel watertight Apparently
 Is it fitted with a watertight door yes worked from Upper platform in engine room.

BOILERS, &c.— (Letter for record S.) Total Heating Surface of Boilers 2242.5 sq. ft. Is forced draft fitted no
 No. and Description of Boilers 3 Double ended. byl. Mult Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs.
 Date of test 10.3.98 Can each boiler be worked separately Yes Area of fire grate in each boiler 40.83 sq. ft. No. and Description of safety valves to each boiler Two Spring direct Area of each valve 9.6 sq. in. Pressure to which they are adjusted 183 lbs. Are they fitted with easing gear Yes Smallest distance between boilers or uptakes and bunkers or woodwork 33" Mean diameter of boilers 12-6"
 Length 14-0" Material of shell plates steel Thickness 1 3/8" Description of riveting: circum. seams treble long. seams treble
 Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 8 1/2" Lap of plates or width of butt straps 10 1/2"
 Per centages of strength of longitudinal joint 85.3 Working pressure of shell by rules 193.5 lbs. Size of manhole in shell 16 1/2" x 13"
 Size of compensating ring 30" x 30" x 1 3/8" No. and Description of Furnaces in each boiler 4 Morrison Material steel Outside diameter 46 1/2"
 Length of plain part 6-0" Thickness of plates 19" Description of longitudinal joint weld No. of strengthening rings ✓
 Working pressure of furnace by the rules 203 lbs. Combustion chamber plates: Material steel Thickness: Sides 5" Back ✓ Top 5" Bottom 3 1/2"
 Pitch of stays to ditto: Sides 8 1/2" Back ✓ Top 4 3/4" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 186.5 lbs.
 Material of stays steel Diameter at smallest part 1.38" Area supported by each stay 66 sq. in. Working pressure by rules 180 lbs. End plates in steam space: Material steel Thickness 1 3/2" Pitch of stays 15 1/2" x 14 1/2" How are stays secured double nut Working pressure by rules 235.5 lbs. Material of stays steel
 Diameter at smallest part 2 1/2" Area supported by each stay 224 sq. in. Working pressure by rules 182 lbs. Material of Front plates at bottom steel
 Thickness 4" Material of Lower back plate ✓ Thickness ✓ Greatest pitch of stays ✓ Working pressure of plate by rules ✓
 Diameter of tubes 3 1/2" Pitch of tubes 4 3/8" x 4 1/2" Material of tube plates steel Thickness: Front 1" Back 1 1/2" Mean pitch of stays 9"
 Pitch across wide water spaces 14 1/2" Working pressures by rules F. 189 B. 232 lbs. Girders to Chamber tops: Material steel Depth and thickness of girder at centre 10 1/2" x 1 1/2" Length as per rule 3-6" Distance apart 8 1/2" Number and pitch of Stays in each Four 7 1/2"
 Working pressure by rules 181.5 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 ✓

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



DONKEY BOILER— Description *None fitted.* When made ✓ Where fixed ✓
 Made at ✓ By whom made ✓
 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 ✓ Diameter of donkey boiler ✓ Length ✓ Material of shell plates ✓ Thickness ✓
 Description of riveting long seams ✓ Diameter 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. ✓
 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:— 2 hon. rod top end + 2 hon. rod bottom end bolts + nuts; 2 Main bearing + one set of coupling bolts + nuts; one set of feed, bilge + air pump valves; one set of springs for L.P. piston; 1 no propeller blades; one air + one cir. pump rod; 12 Condensers + 12 main boiler tubes; one relief valve for each size of H.P. valve spindle.

The foregoing is a correct description,
 J. Morrison
 Manufacturer.

Dates During progress of work in shops - 1897 Aug 13, 14, 15, 20, 22, 30, Oct. 5, 12, 19, 20, Nov. 5, 14, 19, 24, 30, Dec. 1, 2, 6, 8, 9, 15, 16, 17, 20, 21.
 of Survey During erection on board vessel - 22, 24, 1898, Jan. 6, 10, 13, 14, 15, 18, 20, 21, 26, 31, Feb. 2, 4, 7, 10, 14, 15, 17, 18, 21, 22, 23, 24, 25, 26, 28, Mar. 1, 3, 4, 7, 8, 9, 10, 28, 29, 30, 31.
 building Total No. of visits 46, 20, 29, Aug 29, 11, 22, 25, 29, May 3, 4, 5, 6, 9, 12, 13, 16, 17, June 2, 5, 11, 13, 15, 27, July 4, 1898, May 5, June 17, 22, 30, July 1.
 One hundred seven

General Remarks (State quality of workmanship, opinions as to class, &c.)
ENGINES—Length of stern bush 4' 9" Diameter of crank shaft journals as per rule as fitted Diameter of thrust shaft under collars 15"
BOILERS—Range of tensile strength ^{shell} 28 to 32.5 Are they welded or flanged *no* **DONKEY BOILERS**—No. ✓ Range of tensile strength ✓
 Is the approved plan of main boiler forwarded herewith *Yes* Is the approved plan of donkey boiler forwarded herewith ✓

The Main steam pipes have been tested by hydraulic pressure to 360 lbs. per sq. in. and found tight. The engines and Boilers of this vessel, have been constructed under Special Survey, material and workmanship good, when completed they were tried under steam, safety valves adjusted, and found to work well, and are now in safe and efficient working condition, and eligible in our opinion to have **L.M.C. 8.98.** marked in the Register Book.

An electric light installation has been fitted throughout the ship, and when complete, tried under full power, with satisfactory results. Pt. Report will follow.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 8.98 Electric Light

The amount of Entry Fee... £ 3 : :
 Special ... £ 41 : 12 :
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ : :
 When applied for, 8. 7. 1898
 When received, 10. 9. 1898 at work

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

Committee's Minute Assigned

FRI, 2 SEP 1898

+ L.M.C. 8.98 Electric Light



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