

## 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 13<sup>th</sup> August 1897 Last Survey 25<sup>th</sup> August 1898  
 Reg. Book. Steel S. S. ~~Love~~ Albertville (Number of Visits 107)  
 on the Steel S. S. ~~Love~~ Albertville Tons { Gross 3805.  
 Net 2417.  
 Master H. F. Lubbs. 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 432 Owners La Compagnie Belge Maritime du Long. 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 70 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 14 1/2" Size of Crank webs 9" x 22 1/2"  
 Diameter of screw 14" - 3 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 Feed 5" x 10" x 6" x 8" High 10" x 9" 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 1/2" Connected to condenser, or to circulating pump separate donkey suction fitted in Engine room & size 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 85.33 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 furnace top 6-0" Thickness of plates 32 crown 19 Description of longitudinal joint weld No. of strengthening rings ✓  
 bottom 32 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 5" 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 13.232 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 ✓



DONKEY BOILER— Description *None fitted.*

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 ☒ 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 Gon. rod top end + 2 Gon. 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; two 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,

FOR THE MANUFACTURER. *Donkey Boilers Limited*

Dates { During progress of work in shops - 1897 Aug 13 Sept 6 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 12 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 146 20 24 Aug 2 9 11 22 25 27 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* Diameter of thrust shaft under collars *15"*  
BOILERS—Range of tensile strength *28 to 32 1/2* 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. *At.* 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, *8.7.18*  
When received, *10.9.1898*  
*at work*

Committee's Minute

Assigned

FRI, 2 SEP 1898

*+ L.M.C. 8.98 Electric Light*

MACHINE CERTIFICATE WRITTEN.



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