

REPORT ON MACHINERY.

No. 13025.

Port of WEST HARTLEPOOL.

Received at London Office SAT. 28 JUL 1906

No. in Survey held at Hartlepool Date, first Survey 19th Mar, 1905 Last Survey 20th July, 1906

Reg. Book. 1220 on the L. S. Snowdon Range (Number of Visits 45)

Master W. J. Bath Built at W Hartlepool By whom built Wm. Jones & Co. 58 & 59 Collyer Tons { Gross 3059.84 Net 1939.31 When built 1906

Engines made at Hartlepool By whom made Richardsons, Westgate & Co when made 1906

Boilers made at " By whom made " when made 1906

Registered Horse Power " Owners Capt. H. M. C. W. Co. Ltd. Port belonging to Sunderland

Nom. Horse Power as per Section 28 275 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 24 x 38 x 64 Length of Stroke 42 Revs. per minute 60 Dia. of Screw shaft 13.43 Material of Steel
 as fitted 12 3/4 screw shaft
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube No 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 and non-corrosive ✓ If two liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 4.7
 Dia. of Tunnel shaft 11.25 as per rule 11.25 as fitted 11.2 Dia. of Crank shaft journals 11.8 as per rule 11.8 as fitted 12 Dia. of Crank pin 12 1/2 Size of Crank webs 7 1/2 x 2 1/2 Dia. of thrust shaft under collars 12 1/2 Dia. of screw 16.0 Pitch of Screw 16'-6" No. of Blades 4 State whether moveable No Total surface 79.8 sq
 No. of Feed pumps 2 Diameter of ditto 2 3/4 Stroke 27 Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 3 3/4 Stroke 27 Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 2 Sizes of Pumps 6 x 4 x 6 & 8 1/2 x 7 1/2 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 2 3" & 1" from boiler room 3 1/2 In Holds, &c. No 1 Hold 2-3 No 2 Hold 2-3
No 3 Hold 2-3 Jennellwell 1-2 1/2
 No. of Bilge Injections 1 sizes 5 Connected to condenser, or to circulating pump Yes 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 Yes
 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
 Dates of examination of completion of fitting of Sea Connections 26/6/06 of Stern Tube 26/6/06 Screw shaft and Propeller 28/6/06
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top platform

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Olympe & Co. St. Etienne
 Total Heating Surface of Boilers 4264 Is Forced Draft fitted No No. and Description of Boilers Two single ended
 Working Pressure 160 lbs. Tested by hydraulic pressure to 320 lbs. Date of test 31/5/06 No. of Certificate 3858
 Can each boiler be worked separately Yes Area of fire grate in each boiler 50.06 sq No. and Description of Safety Valves to each boiler Two Spring Area of each valve 7.06 Pressure to which they are adjusted 165 lbs. Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 24" Mean dia. of boilers 15'-6" Length 10'-0" Material of shell plates S
 Thickness 1 1/8" Range of tensile strength 29/32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D-R long. seams TR DBS Diameter of rivet holes in long. seams 17/32 Pitch of rivets 7/4" Lap of plates or width of butt straps 17/2"
 Per centages of strength of longitudinal joint rivets 85 plate 83.2 Working pressure of shell by rules 161.4 lbs Size of manhole in shell 12 1/4 x 16 1/4
 Size of compensating ring 1 1/8 No. and Description of Furnaces in each boiler 3 Morrison Material S Outside diameter 48 3/4
 Length of plain part 9' Thickness of plates 17/32 Description of longitudinal joint Welded No. of strengthening rings ✓
 Working pressure of furnace by the rules 168 lbs Combustion chamber plates: Material S Thickness: Sides 9/16 Back 9/16 Top 9/16 Bottom 3/4
 Pitch of stays to ditto: Sides 8' x 8 1/4 Back 8' x 8 1/4 Top 8 1/4 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 160 lbs
 Material of stays S Diameter at smallest part 1 3/8 Area supported by each stay 680 Working pressure by rules 175 lbs End plates in steam space: Material S Thickness 1" Pitch of stays 16' x 18 1/2 How are stays secured D. 4 x 10 Working pressure by rules 161 lbs Material of stays S
 Diameter at smallest part 2 3/8 Area supported by each stay 2920 Working pressure by rules 167 lbs Material of Front plates at bottom S
 Thickness 1 1/16 Material of Lower back plate S Thickness 3/4 Greatest pitch of stays 13' Working pressure of plate by rules 162 lbs
 Diameter of tubes 3 1/4 Pitch of tubes 4 1/2 Material of tube plates S Thickness: Front 15/16 Back 3/4 Mean pitch of stays 9"
 Pitch across wide water spaces 14 1/4 Working pressures by rules 166 lbs Girders to Chamber tops: Material S Depth and thickness of girder at centre 7 x 17 1/2 Length as per rule 28 1/2 Distance apart 8 1/4 Number and pitch of stays in each 2-8 1/4
 Working pressure by rules 165 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 ✓

W743-0037



VERTICAL DONKEY BOILER— Manufacturers of Steel

No. *1111* Description *Vertical Donkey Boiler*

Made at *West Hartlepool* By whom made *Richardsons West Hartlepool & Co. Limited* When made *1905* Where fixed *0111*

Working pressure tested by hydraulic pressure to *100 lbs* Date of test *1905* No. of Certificate *1111* Fire grate area *0111* Description of Safety Valves *1111*

No. of Safety Valves *1111* Area of each *1111* Pressure to which they are adjusted *1111* Date of adjustment *1111*

If fitted with easing gear *1111* If steam from main boilers can enter the donkey boiler *1111* Dia. of donkey boiler *1111* Length *1111*

Material of shell plates *1111* Thickness *1111* Range of tensile strength *1111* Descrip. of riveting long. seams *1111*

Dia. of rivet holes *1111* Whether punched or drilled *1111* Pitch of rivets *1111* Lap of plating *1111* Per centage of strength of joint *1111* Rivets *1111* Plates *1111*

Working pressure of shell by rules *1111* Thickness of shell crown plates *1111* Radius of do. *1111* No. of stays to do. *1111* Dia. of stays *1111*

Diameter of furnace Top *1111* Bottom *1111* Length of furnace *1111* Thickness of furnace plates *1111* Description of joint *1111*

Working pressure of furnace by rules *1111* Thickness of furnace crown plates *1111* Stayed by *1111*

Diameter of uptake *1111* Thickness of uptake plates *1111* Thickness of water tubes *1111* Dates of survey *1111*

SPARE GEAR. State the articles supplied:— *1 spare propeller + spare gear as per rule requirements*

The foregoing is a correct description,
 for RICHARDSONS WEST HARTLEPOOL & CO. LIMITED
Richardsons Manufacturer.

Managing Director. *1905* Mar. 17. 15. 20. 22. 22. 23 July 3-6. Aug. 25. Oct. 10. Nov. 21. Dec. 7. 11. 1906 Feb. 23. 26

Dates of Survey while building { During progress of work in shops - - }
 { During erection on board vessel - - }
 Total No. of visits *45* Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders *14/5/06* Slides *26/6/06* Covers *26/6/06* Pistons *26/6/06* Rods *26/6/06*

Connecting rods *26/6/06* Crank shaft *16/5/06* Thrust shaft *18/5/06* Tunnel shafts *5/4/06* Screw shaft *15/5/06* Propeller *4/7/06*

Stern tube *4/7/06* Steam pipes tested *2/7/06* Engine and boiler seatings *28/6/06* Engines holding down bolts *28/6/06*

Completion of pumping arrangements *4/7/06* Boilers fixed *28/6/06* Engines tried under steam *4/7/06*

Main boiler safety valves adjusted *4/7/06* Thickness of adjusting washers *SB 35 6/16 PB 4 6/16 PB P 5 6/16 SV 6/16*

Material of Crank shaft *3* Identification Mark on Do. *4435* Material of Thrust shaft *3* Identification Mark on Do. *4435*

Material of Tunnel shafts *3* Identification Marks on Do. *4435* Material of Screw shafts *3 Iron* Identification Marks on Do. *4435*

Material of Steam Pipes *W Iron* Test pressure *500 lbs sq"*

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

The Engines & Boilers of this vessel have been constructed under special survey & the materials & workmanship are found to be good. The engines have been tried under steam & the safety valves of the Main & Donkey Boilers have been adjusted to the working pressure.

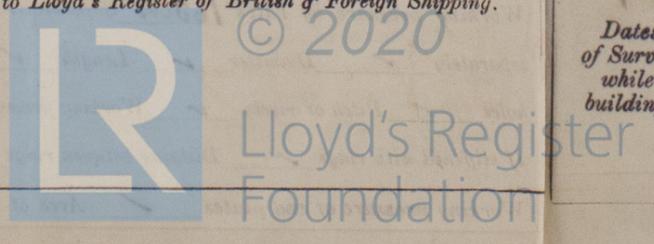
The Machinery is now in good order & safe working condition & eligible in my opinion to have the notation of + L M C 7.05 (illegible) in the Register Book.

It is submitted that this vessel is eligible for THE RECORD *L M C 7.05*

The amount of Entry Fee.	£	10	When applied for.	<i>21.4.06</i>
Special	£	33.15	When received.	<i>28.7.06</i>
Donkey Boiler Fee	£			
Travelling Expenses (if any) £				

Thos. L. Shorton
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute
 Assigned *TUES. 31 JUL 1906 + L M C 7.05*



West Hartlepool

Certificate (if required) to be sent to

(The Surveyors are requested not to write on or beyond the space for Committee's Minutes.)