

REPORT ON MACHINERY.

No. 12843

Port of West Hartlepool

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Received at London Office

No. in Survey held at West Hartlepool Date, first Survey 11th Sept. 1905 Last Survey 20th Feby. 1906

Reg. Book.

Master J. Holman Built at West Hartlepool By whom built W Gray & Co Ltd

(Number of Visits 8)

Tons { Gross 3990.0
Net 2565.95
When built 1906

Engines made at West Hartlepool By whom made General Marine & Works when made 1906

Boilers made at West Hartlepool By whom made General Marine & Works when made 1906

Registered Horse Power _____ Owners J. H. Harrison Ltd. Port belonging to London

Nom. Horse Power as per Section 28 318 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple Compound No. of Cylinders Three No. of Cranks Three

Dia. of Cylinders 26" 42" 70" Length of Stroke 45 Revs. per minute 65 Dia. of Screw shaft 14.4 Material of 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 Yes 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 Yes If two

liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 62"

Dia. of Tunnel shaft 12.7 Dia. of Crank shaft journals 14.33 Dia. of Crank pin 14 Size of Crank webs 2 1/2 x 8 Dia. of thrust shaft under

collars 14 Dia. of screw 17.9 Pitch of screw 16.6 No. of blades 4 State whether moveable No Total surface 98 sq ft

No. of Feed pumps Two Diameter of ditto 3 1/2 Stroke 28 Can one be overhauled while the other is at work Yes

No. of Bilge pumps Two Diameter of ditto 4 1/2 Stroke 28 Can one be overhauled while the other is at work Yes

No. of Donkey Engines Two Sizes of Pumps 12 x 10 & 6 x 5 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Two 3 1/2 In Holds, &c. Light 3 1/2 & Small 3 1/2

No. of bilge injections Two sizes 6 1/2 Connected to condenser, or to circulating pump Both 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 Some

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 _____ 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 Two times Is the screw shaft tunnel watertight Yes

Is it fitted with a watertight door Yes worked from Top Staircase

OILERS, &c.— (Letter for record R) Total Heating Surface of Boilers 5542 Is forced draft fitted No

No. and Description of Boilers Two 4 cyl Inded Cyl Boilers Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs

Date of test 20/1/06 Can each boiler be worked separately Yes Area of fire grate in each boiler 67.74 sq ft No. and Description of safety valves to

each boiler Two Spring Area of each valve 9.62 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 17" Mean dia. of boilers 16.6 Length 11.0 Material of shell plates Steel

Thickness 1 1/2 Range of tensile strength 27/30 Are they welded or flanged Both Descrip. of riveting: cir. seams Stitch up long seams all accessible

Diameter of rivet holes in long. seams 1 1/2 Pitch of rivets 9 1/2 Lap of plates or width of butt straps 20 1/2

Per centages of strength of longitudinal joint 88.4 Working pressure of shell by rules 181 lbs Size of manhole in END 16 x 12

Size of compensating ring Flanged No. and Description of Furnaces in each boiler Three Brown Material Steel Outside diameter 48 1/2

Length of plain part top Thickness of plates crown 10 1/16 Description of longitudinal joint welded No. of strengthening rings None

Working pressure of furnace by the rules 191 lbs Combustion chamber plates: Material Steel Thickness: Sides 10 1/16 Back 10 1/16 Top 10 1/16 Bottom 14 1/16

Pitch of stays to ditto: Sides 8 1/2 x 8 Back 9 x 7 1/4 Top 9 x 8 If stays are fitted with nuts or riveted heads Anti Working pressure by rules 183 lbs

Material of stays Iron Diameter at smallest part 1 1/2 Area supported by each stay 9 x 8 Working pressure by rules 185 lbs End plates in steam space:

Material Steel Thickness 1 1/4 Pitch of stays 23 x 19 1/2 How are stays secured all nut Working pressure by rules 188 lbs Material of stays Steel

Diameter at smallest part 3 3/4 Area supported by each stay 23 x 19 1/2 Working pressure by rules 189 lbs Material of Front plates at bottom Steel

Thickness 1 Material of Lower back plate Steel Thickness 1 Greatest pitch of stays 17 1/2 Working pressure of plate by rules 180 lbs

Diameter of tubes 3 1/2 Pitch of tubes 4 1/2 Material of tube plates Steel Thickness: Front 1 Back 1 1/16 Mean pitch of stays 9

Pitch across wide water spaces 14 1/2 Working pressures by rules 189 lbs Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 9 x 1 1/2 Length as per rule 31 1/2 Distance apart 9 Number and pitch of Stays in each Three 8

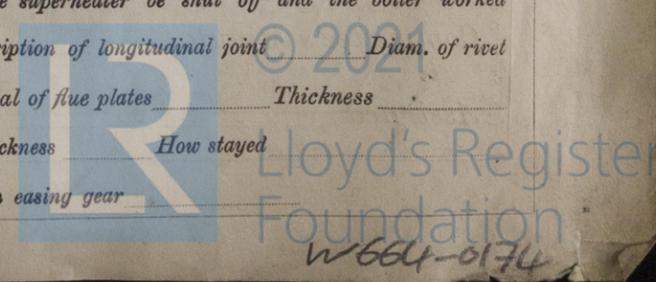
Working pressure by rules 183 lbs Superheater or Steam chest; how connected to boiler _____ Can the superheater be shut off and the boiler worked

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 _____

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— No. *one* Description *Cylindrical*
 Made at *Stockton* By whom made *J. Ludman & Co.* When made *1906* Where fixed *Blackburn*
 Working pressure *90 lb* tested by hydraulic pressure to *180 lb* No. of Certificate *2592* Fire grate area *32 sq ft* Description of safety valves *Two Spring*
 No. of safety valves *2* Area of each *8.29* Pressure to which they are adjusted *90 lb* If fitted with easing gear *No* If steam from main boilers
 enter the donkey boiler *No* Dia. of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____ Range of te
 strength _____ Descrip. of riveting long. seams _____ Dia. 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 _____ Descriptio
 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:— *Two top end bolts. Two bottom end bolts. Two main beam
 bolts. One set coupling bolts. One set feed pump valves one set bilge pump valves
 one set of pressure piston springs. Piston rods. Piston nuts &c*

FOR THE CENTRAL MARINE ENGINE WORKS.
 (W. Gray & Co. Ltd.)
 The foregoing is a correct description,
Wm. G. Rowsdale Manufacturer.
 MANAGER.

Dates of Survey while building	During progress of work in shops - -	1905. Sept. 11. 12. 14. 15. 20. 25. 27. 28.	During erection on board vessel - -	1906. Jan. 2. 4. 5. 8. 9. 10. 11. 12. 15. 16. 17. 18. 19. 20. 22. 24. 26. 29. 31.	Total No. of visits	86	Is the approved plan of main boiler forwarded herewith <i>Yes</i>
		1905. Oct. 2. 5. 4. 6. 9. 11. 12. 23. 24. 25. 27.		1906. Feb. 1. 2. 6. 16. 20.			
		1906. Nov. 2. 4. 6. 7. 8. 9. 10. 11. 14. 15. 16. 17. 20. 21. 22. 23. 24. 27. 28. 29. 30.		1906. Dec. 1. 2. 4. 5.			

General Remarks (State quality of workmanship, opinions as to class, &c. *Workmanship good.*

*The Copper Main Steam pipes have been tested to 1450 lb
 and with bend tests found good.*

*The Machinery and Boilers of this steamer have
 been constructed under Special Survey and placed on board
 in accordance with the Society's Rules. They are now in my
 opinion in safe working condition and the case is respectfully
 submitted for the certification + L.M.C. 2. 06. in the Register
 Book*

It is submitted that
 this vessel is eligible for
THE RECORD L.M.C. 2. 06

Wm. G. Rowsdale
 1.3.06

The amount of Entry Fee	£ 3	When applied for,	28. 2. 06
Special	£ 37 18	When received,	28. 2. 06
Donkey Boiler Fee	£ :		
Travelling Expenses (if any)	£ :		

James James
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

Committee's Minute
 Assigned
 FRI. 2 MAR 1906
 + L.M.C. 2. 06

MACHINERY CERTIFICATE
 WRITTEN.



West Newcastle

Certificate (if required) to be sent to

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