

REPORT ON MACHINERY.

No. 12708

Port of West Hartlepool

Received at London Office 10

No. in Survey held at West Hartlepool Date, first Survey 1st March Last Survey 5th Sept 1905

(Number of Visits 99)

Reg. Book.

Supp. 14 on the

Steel Steamer "Domira"

Tons Gross 3112.95
Net 2000.71

Master P. Reddie

Built at West Hartlepool By whom built W Gray & Co Ltd

When built 1905

Engines made at West Hartlepool By whom made Central Marine & Works when made 1905

Boilers made at West Hartlepool By whom made Central Marine & Works when made 1905

Registered Horse Power _____ Owners MacLay & MacIntyre Port belonging to Glasgow

Nom. Horse Power as per Section 28 283 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 24" 35" 64" Length of Stroke 42 Revs. per minute 65 Dia. of Screw shaft 1 1/2 as per rule 1 1/2 Material of screw shaft Iron

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 No 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 No If two liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 57"

Dia. of Tunnel shaft 11.72 as per rule 12 Dia. of Crank shaft journals 12.8 as per rule 12 1/2 Dia. of Crank pin 12 1/2 Size of Crank webs 17 1/2 Dia. of thrust shaft under collars 12 1/2 Dia. of screw 16.6 Pitch of screw 15.5 No. of blades 14 State whether moveable No Total surface 82 sq ft

No. of Feed pumps Two Diameter of ditto 3 1/2" Stroke 26" Can one be overhauled while the other is at work No

No. of Bilge pumps Two Diameter of ditto 4" Stroke 26" Can one be overhauled while the other is at work No

No. of Donkey Engines Two Sizes of Pumps 6" dia x 10" x 10" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Three 3 1/2" In Holds, &c. Line 3" & Manual 3"

No. of bilge injections one sizes 5" Connected to condenser, or to circulating pump Jump Is a 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 _____ 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 Jan 1905 Is the screw shaft tunnel watertight Yes

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

BOILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 45014 sq ft Is forced draft fitted No

No. and Description of Boilers Two Cylindrical Working Pressure 180 lb Tested by hydraulic pressure to 260 lb

Date of test 2/6/05 Can each boiler be worked separately Yes Area of fire grate in each boiler 54.5 sq ft No. and Description of safety valves to each boiler Two Spring Area of each valve 8.29 sq in Pressure to which they are adjusted 180 lb Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 17" Mean dia. of boilers 15.6" Length 10.5" Material of shell plates Steel

Thickness 1 5/16" Range of tensile strength 27/30 Are they welded or flanged both Descrip. of riveting: cir. seams _____ long. seams all chevron

Diameter of rivet holes in long. seams 1 5/16" Pitch of rivets 8 7/8" Lap of plates or width of butt straps 19 1/4"

Per centages of strength of longitudinal joint rivets 86.3 Working pressure of shell by rules 180 lb Size of manhole in shell 16" x 12"

Size of compensating ring Hanged No. and Description of Furnaces in each boiler Three Material Steel Outside diameter 47 10/16"

Length of plain part top _____ bottom _____ Thickness of plates crown 9/16" Description of longitudinal joint welded No. of strengthening rings longitudinal

Working pressure of furnace by the rules 185 lb Combustion chamber plates: Material Steel Thickness: Sides 10/16" Back 10/16" Top 10/16" Bottom 14/16"

Pitch of stays to ditto: Sides 8 3/4" Back 9 1/2" Top 9" If stays are fitted with nuts or riveted heads none Working pressure by rules 180 lb

Material of stays Steel Diameter at smallest part 1 1/2" Area supported by each stay 9 1/2" x 8" Working pressure by rules 190 lb End plates in steam space: Material Steel Thickness 1 5/16" Pitch of stays 22" x 19 1/2" Working pressure by rules 180 lb Material of stays Steel

Diameter at smallest part 3 5/8" Area supported by each stay 22" x 19 1/2" Working pressure by rules 180 lb Material of Front plates at bottom Steel

Thickness 1 5/16" Material of Lower back plate Steel Thickness 10/16" Greatest pitch of stays 14 1/2" Working pressure of plate by rules 180 lb

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

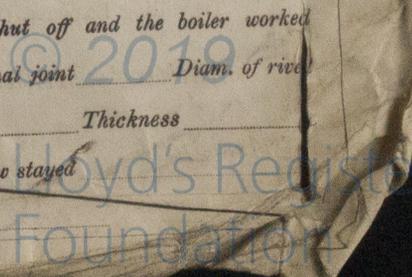
Pitch across wide water spaces 14 1/4" Working pressures by rules 189 lb Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 8 1/2" x 1 1/2" Length as per rule 28 3/4" Distance apart 8" Number and pitch of Stays in each two 9"

Working pressure by rules 185 lb 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 _____

Checked by 707

5700-202-0075



DONKEY BOILER— No. *one* Description *Cylindrical in form*
 Made at *Stockton* By whom made *Riley Bros* When made *1905* Where fixed *Stockton*
 Working pressure *85 lb* tested by hydraulic pressure to *170 lb*. No. of Certificate *2498* Fire grate area *26 1/2* Description of safety valves *Spring loaded*
 No. of safety valves *two* Area of each *8 2/3* Pressure to which they are adjusted *85 lb* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Dia. of donkey boiler *9.6* Length *9.0* Material of shell plates *Steel* Thickness *1 1/2* Range of tensile strength *27-32* Descrip. of riveting long seams *Stitch in lap* Dia. of rivet holes *15/16* Whether punched or drilled *Drilled* Pitch of rivets *1 1/2*
 Lap of plating *6 1/2* Per centage of strength of joint Rivets *10.5 1/2* Thickness of shell *ENR* plates *1 1/2* Radius of do. *-* No. of Stays to do. *14*
 Dia. of stays *1 1/2* Diameter of furnace Top *2.10* Bottom *7.9* Length of furnace *5.10* Thickness of furnace plates *1/2* Description of joint *welded* Thickness of furnace *ENR* plates *3 1/2 5 1/2* Stayed by *cross stays* Working pressure of shell by rules *86 lb*
 Working pressure of furnace by rules *86 lb* Diameter of uptake *3 1/2* Thickness of uptake plates *1 1/2 + 9/16* Thickness of water tubes *7/16*

SPARE GEAR. State the articles supplied:— *Two top end bolts. Two bottom end bolts. Two main bearing bolts. One set coupling bolts. One set feed pump valves. One set Pelge pump valves. One high pressure piston springs. One propeller shaft & propeller.*

The foregoing is a correct description,

Wm. Borrowdale Manufacturer.

Dates of Survey while building
 During progress of work in shops: 1905 Mar. 1, 3, 6, 7, 8, 9, 10, 13, 20, 21, 22, 23, 24, 27, 28, 29, 30, 31, Apr. 3, 4, 5, 6, 7, 10, 11, 13, 14, 17, 18, 19, 20, 26, 27, 28, May 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12
 During erection on board vessel: 15, 16, 17, 18, 19, 22, 23, 24, 25, 26, 29, 30, 31, June 1, 2, 5, 6, 7, 8, 9, 10, 15, 16, 19, 20, 21, 22, 23, 26, 27, 28, 29, 30, July 3, 4, 6, 7, 10, 12, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, Aug 1, 2, 3, 4
 Total No. of visits: *99*

Is the approved plan of main boiler forwarded herewith *Yes* To be returned for duplicate
 " " " donkey " " " *No*

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

The main steam pipe (copper) have been tested to 1450 lb and with head test found good.

This case is similar in all respects to the "Castland" West Hartlepool Report No. 12630 dated 28 May 1905.

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 notification + L.M.C. 9. 05. in the Register Book.

It is submitted that this vessel is eligible for THE RECORD H.L.M.C. 9.05.

J. J. Jones
H. 9. 05

The amount of Entry Fee... £ 2 : :
 Special £ 34 : 3 :
 Donkey Boiler Fee £ : :
 Travelling Expenses (if any) £ : :
 When applied for, 13. 9. 1905
 When received, 13. 9. 1905

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

Committee's Minute

FRI. 15 SEP 1905

Assigned

+ L.R. 6 9 05



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MACHINERY CERTIFICATE
 DUBLIN

Certificate (if required) to be sent to West Hartlepool.

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