

REPORT ON MACHINERY.

FR 10 NOV 1893

Port of West-Hartlepool

Received at London Office

No. in Survey held at West-Hartlepool Date, first Survey 23rd March Last Survey 4th November 1893
Reg. Book. on the Steamer Chickahominy (Number of Visits 7)
Master A. McLean Built at Hartlepool By whom built Furness W & Co. Ltd When built 1893
Engines made at West-Hartlepool By whom made The Central Marine Eng Works when made 1893
Boilers made at West-Hartlepool By whom made The Central Marine Eng Works when made 1893
Registered Horse Power 412 Owners Chesapeake & Ohio S. S. Co. (Ld) Port belonging to West-Hartlepool
Nom. Horse Power as per Section 28 401

ENGINES, &c.— Description of Engines Triple Exp, Reversed, Direct Act, Surface Condens- g No. of Cylinders 3 (3 cranks)
Diameter of Cylinders 28-43 1/2-72 Length of Stroke 48 Revolutions per minute 65 Diameter of Screw shaft as per rule 12.98
Diameter of Tunnel shaft as fitted 12.5 Diameter of Crank shaft journals 13 Diameter of Crank pin 13 Size of Crank webs 17 1/2 x 8
Diameter of screw 16-6 Pitch of screw Differential No. of blades 4 State whether moveable Yes Total surface 90 sq ft
No. of Feed pumps 2 Diameter of ditto 4 Stroke 30 Can one be overhauled while the other is at work Yes
No. of Bilge pumps 2 Diameter of ditto 4 1/2 Stroke 30 Can one be overhauled while the other is at work Yes
No. of Donkey Engines 3 Sizes of Pumps FEED - 4 1/2 DIA 10" STROKE (duplex) No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room 5 - one 3 1/2" and four 3" In Holds, &c. Five, one 3 1/2" in fore hold one 3 1/2" main hold one 3 1/2" after hold & one 3 1/2" after most hold, also one 2 1/2" in after well.
No. of bilge injections the sizes 6 1/2" dia 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 none
Are all connections with the sea direct on the skin of the ship yes except Are they Valves or Cocks valves and cocks
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 12/9/93 Is the screw shaft tunnel watertight yes
Is it fitted with a watertight door yes worked from top platform of engine room

BOILERS, &c.— (Letter for record (S)) Total Heating Surface of Boilers 6640 sq ft
No. and Description of Boilers 2 cyl. Mult. Tube Ended Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs
Date of test 28.7.93 Can each boiler be worked separately Yes Area of fire grate in each boiler 78 sq ft No. and Description of safety valves to each boiler 2 Spring direct Area of each valve 11.044 Pressure to which they are adjusted 165-175 Are they fitted with easing gear yes
Smallest distance between boilers or uptakes and bunkers 14 inches Mean diameter of boilers 14-6"
Length 15-9" Material of shell plates Steel Thickness 1 1/32" Description of riveting: circum. seams shell ends flanged long. seams T.B.S. treble
Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 8 1/4" Lap of plates 8 width of butt straps 9 1/2" and 17 1/4"
Per centages of strength of longitudinal joint rivets 86.3 plate 85.6 Working pressure of shell by rules 162.3 Size of manhole in shell 16 x 12"
Size of compensating ring 8 x 1 1/2" thick No. and Description of Furnaces in each boiler 6 Ribbed Material Steel Outside diameter 40 1/2"
Length of plain part top 3" Thickness of plates bottom 9" crown 1/2" Description of longitudinal joint Welded No. of strengthening RIBS 4
Working pressure of furnace by the rules 171.8 Combustion chamber plates: Material Steel Thickness: Sides 19/32" Back ✓ Top 19/32" Bottom 7/8"
Pitch of stays to ditto: Sides 8 1/2" x 8 1/2" Back ✓ Top 8 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 163.7
Material of stays Steel Diameter at smallest part 1.3837 Area supported by each stay 4.39 Working pressure by rules 161.3 End plates in steam space: double nuts & riv washers Working pressure by rules 162.0 Material of stays Steel
Material Steel Thickness 1 1/8" Pitch of stays 18 1/2" x 16 1/2" Area supported by each stay 302.3 Working pressure by rules 165.6 Material of Front plates at bottom Steel
Diameter at smallest part 2.66 Thickness 7/8" Material of Lower back plate ✓ Thickness ✓ Greatest pitch of stays ✓ Working pressure of plate by rules ✓
Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates Steel Thickness: Front 15/16" Back 13/16" Mean pitch of stays 9 x 9"
Pitch across wide water spaces 14 1/4" Working pressures by rules 166.2 - 292.0 Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 9 1/2" plates 1 1/8" Length as per rule 41 1/8" Distance apart 8 1/2" Number and pitch of Stays in each 4 - 8"
Working pressure by rules 168.3 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 ✓

DONKEY BOILER— Description *Bye Mult, Single Ended. Steel*
 Made at *Gatehead* By whom made *Clarke Chapman & Co* When made *30.8.93* Where fixed *Stokehole*
 Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *4160* Fire grate area *30 sq ft* Description of safety valves *Spring direct*
 No. of safety valves *one* Area of each *14.19* Pressure to which they are adjusted *85 lbs* fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Diameter of donkey boiler *9'-0"* Length *9'-0"* Material of shell plates *Steel* Thickness *9/16"*
 Description of riveting long. seams *double riv lap* Diameter of rivet holes *1"* Whether punched or drilled *drilled* Pitch of rivets *3 3/8"*
 Lap of plating *4 1/2"* Per centage of strength of joint *70.0* Rivets *70.0* Thickness of *TOP END* plates *8 7/16"* Radius of do. *✓* No. of Stays to do. *6*
 Dia. of stays *1 1/2" dia* Diameter of furnace *2'-9" dia* Length of furnace *6'-0"* Thickness of furnace plates *7/16"* Description of joint *single butt step* Thickness of *COM CHAMBER* plates *3/16"* Stayed by *1 1/8" stays* *8" x 1 1/2" pitch* Working pressure of shell by rules *83 lbs*
 Working pressure of furnace by rules *86 lbs* Diameter of *TUBES* *3"* Thickness of *TUBE* plates *5/8"* Thickness of *water* tubes *10 B.W.G.*

SPARE GEAR. State the articles supplied:— *Two propeller blades, one set of bolts & nuts for connecting rods main bearing and shaft coupling one set of fuel and bilge pump valves and nuts a set of piston springs 120 bolts and nuts assorted & bar iron assorted. air & circulating buckets & rods and on circulating pump valve seat & guard*
 The foregoing is a correct description,

FOR THE GENERAL MARINE ENGINE WORKS,

Manufacturer. of Main engines & Marine Boilers

Thomas Murray

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

Main steam pipes tested by hydraulic pressure to 320 lbs and found tight. The engines and boilers of this vessel have been constructed under Special Survey and of a good quality of workmanship. They have been tried under steam, the safety valves adjusted and found to work well and are now in a safe and efficient working condition and eligible in our opinion to have L.M.C. 11-93 recorded in the Register Book of this Society

The Electric Lighting installation of this vessel has been fitted by Messrs Clarke Chapman & Co Limited and their report on the same will be forwarded when we receive it from them.

The engine and dynamo are fitted on the lower platform near the after bulkhead of the engine room.

The photo print of the boilers is forwarded herewith.

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 11.93—

Robt
10/11/93—

Certificate (if required) to be sent to

The amount of Entry Fee.. £ *3* : *0* :
 Special £ *40* : *1* :
 Donkey Boiler Fee £ : :
 Travelling Expenses (if any) £ : :
 When applied for, *8.11.93*
 When received, *8.11.93*

Wm R Blackie A.R. Paton
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *TUES. 14 NOV 1893*

Assigned

+ L.M.C. 11.93



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