

Sld No. 20897
New No. 43425

REPORT ON MACHINERY.

Port of Sunderland of Newcastle-on-Tyne.

Received at London Office

No. in Survey held at Sland & Newcastle Date, first Survey 12th Sept 1901 Last Survey 11th April 1902
Reg. Book. (Number of Visits 13)

on the Steel Screw Steamer "Potomac" Tons { Gross 2618
Net 2255

Master Richards Built at WallSEND By whom built Swan & Hunter When built 1902

Engines made at Sunderland By whom made Richardsons Westgarth & Hay Ltd when made 1902

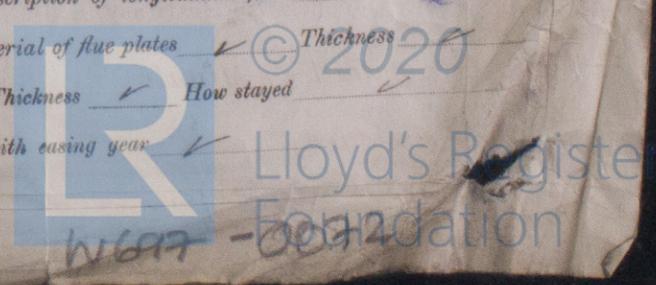
Boilers made at " By whom made " when made "

Registered Horse Power Owners British Maritime Trust Co Port belonging to London

Nom. Horse Power as per Section 28 315 Is Refrigerating Machinery fitted No Is Electric Light fitted "

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 23 1/2 - 39 - 66" Length of Stroke 45" Revs. per minute 65 Dia. of Screw shaft as per rule 13.48" Lgth. of stern bush 4-9"
 Dia. of Tunnel shaft as per rule 11.96" Dia. of Crank shaft journals as per rule 12.56" Dia. of Crank pin 13" Size of Crank webs 9"x8 1/2" Dia. of thrust shaft under collars 13" Dia. of screw 16-6" Pitch of screw 16-0" No. of blades 4 State whether moceable No Total surface 77 #
 No. of Feed pumps 2 Diameter of ditto 3" Stroke 30" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 3" Stroke 30" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 2 Sizes of Pumps 9"x11"x10" & 6"x4"x6" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 4 of 3 1/2" dia. In Holds, &c. Two in each hold 3 1/2" dia. one in aft hold with 3 1/2" dia one in tunnel with 2 1/2" dia.
 No. of bilge injections 1 sizes 5" Connected to condenser, or to circulating pump C.P. Is a separate donkey suction fitted in Engine room & size Yes 4"
 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
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock Nov 1901 Is the screw shaft tunnel watertight Yes
 Is it fitted with a watertight door Yes worked from upper platform

BOILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 4840 # Is forced draft fitted No
 No. and Description of Boilers 2 Ordinary Marine Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs
 Date of test 25/10/01 Can each boiler be worked separately Yes Area of fire grate in each boiler 66.5 # No. and Description of safety valves to each boiler 2 Spring Area of each valve 8.30" Pressure to which they are adjusted 180 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 24" Mean dia. of boilers 10-9" Length 10-6" Material of shell plates S
 Thickness 1/8" Range of tensile strength 29-32T Are they welded or flanged No Descrip. of riveting: cir. seams D.R.L. long. seams T.R.D.B.
 Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 9 1/2" Lap of plates or width of butt straps 16 1/2"
 Per centages of strength of longitudinal joint rivets 84.5 Working pressure of shell by rules 202 lbs Size of manhole in shell 16" x 12" end plate 85.5
 Size of compensating ring Flanged No. and Description of Furnaces in each boiler 3 Morrison's Material S Outside diameter 49 1/4"
 Length of plain part top ✓ Thickness of plates crown 19/32 Description of longitudinal joint Welded No. of strengthening rings ✓ bottom ✓
 Working pressure of furnace by the rules 192 lbs Combustion chamber plates: Material S Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 13/16"
 Pitch of stays to ditto: Sides 8"x8" Back 8"x8" Top 8"x8" If stays are fitted with nuts or riveted heads Y + W Working pressure by rules 211 lbs
 Material of stays S Diameter at smallest part 1.50" Area supported by each stay 64.0" Working pressure by rules 187 lbs End plates in steam space: Material S Thickness 1 1/16" Pitch of stays 16 1/2" How are stays secured D.N. Working pressure by rules 185 lbs Material of stays S
 Diameter at smallest part 6.10" Area supported by each stay 272.0" Working pressure by rules 224 lbs Material of Front plates at bottom S
 Thickness 13/16" Material of Lower back plate S Thickness 3/4" Greatest pitch of stays 14 1/2" Working pressure of plate by rules 285 lbs
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" Material of tube plates S Thickness: Front 13/16" Back 13/16" Mean pitch of stays 9"
 Pitch across wide water spaces 14 1/2" Working pressures by rules 192 lbs Girders to Chamber tops: Material S Depth and thickness of girder at centre 8 1/2" x 1 1/2" Length as per rule 28 1/2" Distance apart 8" Number and pitch of Stays in each 2 of 8"
 Working pressure by rules 299 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— No. *101* Description *Cylindrical front, single end.*
 Made at *Stockton* By whom made *Riley Bros.* When made *22/11/01* Where fixed *upper deck*
 Working pressure *90 lb* tested by hydraulic pressure to *180 lb* No. of Certificate *2635* Fire grate area *30 5/8* Description of safety valves *Spring*
 No. of safety valves *2* Area of each *4.91* Pressure to which they are adjusted *90 lb* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Dia. of donkey boiler *9'-9"* Length *10'-0"* Material of shell plates *S* Thickness *19/32* Range of tensile strength *27-32* Descrip. of riveting long. seams *lap joint* Dia. of rivet holes *2 1/2* Whether punched or drilled *drilled* Pitch of rivets *3 3/8"*
 Lap of plating *7"* Per centage of strength of joint Rivets *76.5* Thickness of shell *end* plates *13/16* Radius of do. *pitch* No. of Stays to do. *14 x 13"*
 Dia. of stays. *2"* Diameter of furnace *top 35"* Bottom *35"* Length of furnace *7 1/2* Thickness of furnace plates *9/16* Description of joint *welded* Thickness of furnace *end* plates *1/2"* Stayed by *14 off. 7 1/2" pitch* Working pressure of shell by rules *92*
 Working pressure of furnace by rules *96* Diameter of *tubes 3 1/2"* Thickness of *tubes* plates *13/16 + 19/32* Thickness of *stay* tubes *5/16"*

SPARE GEAR. State the articles supplied:— *Set of top & bottom end, main bearings, & coupling bolts & nuts, air, feed, circ, & bilge pump valves assorted iron, bolts & nuts*

RICHARDBONS, WESTGARTH & CO., LTD

The foregoing is a correct description,

Manufacturer

James Russell CHIEF DRAUGHTSMAN

Dates of Survey while building
 During progress of work in shops— *1901 - Sept 12, 18, Oct 10, 14, Nov 4, 7, 26, Dec 14, 1902 - Mar 25, Apr 3, 4, 8, 11.*
 During erection on board vessel— *None: April 1902. One visit*
 Total No. of visits *13.*

Is the approved plan of main boiler forwarded herewith *Yes.*
 " " " donkey " " " *No*

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

Material of screw shaft *W.S.* 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
 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 *✓*

The machinery herein described has been built & tested in accordance with the Rules of the Society & we beg to recommend that the same receives the notation of + L.M.C 1902 in the Register Book B.

It is submitted that this vessel is eligible for THE RECORD - L M C 4:02

13.5.02
13.5.02

The amount of Entry Fee... £ *3*
 Special... £ *35: 15*
 Donkey Boiler Fee... £
 Travelling Expenses (if any) £

J. W. Fishmore & Co. Surveyors
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUES. 3 JUN 1902 TUES. 24 JUN 1902

Assigned *L.M.C. 4:02*



Certificate (if required) to be sent to Sunderland

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