

REPORT ON MACHINERY.

Port of *West Hartlepool*

Received at London Office WED. 24 JAN 1894

No. in Survey held at *Ev Hpl*
Reg. Book.Date, first Survey *17th Aug 93* Last Survey *13th Jan 1894*
(Number of Vols *40*)on the *Screw Steamer Pacific*Tons { Gross *2622*
Net *1690*When built *1894*Master *F Marshall* Built at *Ev Hpl*By whom built *Ev Gray & Co Ltd*Engines made at *Ev Hpl*By whom made *Central Marine Engine Works* when made *1894*Boilers made at *Ev Hpl*By whom made *Central Marine Engine Works* when made *1894*Registered Horse Power *250*Owners *Ev. H. Cockerline & Co* Port belonging to *Hull*Nom. Horse Power as per Section 28 *257*

ENGINES, &c.— Description of Engines *Triple Inverted Direct* No. of Cylinders *Three*
 Diameter of Cylinders *24"-38"-64"* Length of Stroke *42* Revolutions per minute *65* Diameter of Screw shaft *as per rule 11.26*
 Diameter of Tunnel shaft *as fitted 11"* Diameter of Crank shaft journals *11 1/2"* Diameter of Crank pin *11 1/2"* Size of Crank webs *16 1/4 x 7 1/8*
 Diameter of screw *15-3"* Pitch of screw *Differential* No. of blades *4* State whether moveable *no* Total surface *73 sq ft*
 No. of Feed pumps *2* Diameter of ditto *3 1/4"* Stroke *26"* Can one be overhauled while the other is at work *Yes*
 No. of Bilge pumps *2* Diameter of ditto *4"* Stroke *26"* Can one be overhauled while the other is at work *Yes*
 No. of Donkey Engines *Three* Sizes of Pumps *6 x 6, 4 x 6, 10 x 9* No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room *Three. Two 3" & one 3 1/2"* In Holds, &c. *Two 2 3/4" in Fore Hold. Two 2 3/4" in*
Fore Main Hold. Two 2 3/4" in Aft Main Hold. One 2 1/4" in After Hold with connection to Aft.
 No. of bilge injections *1* size *5* Connected *to condenser* to circulating pump 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 except* Are they Valves or Cocks *To Th*
 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 *Below*
 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 *13th Jan* Is the screw shaft tunnel watertight *Yes*
 Is it fitted with a watertight door *Yes* worked from *Top platform Engine room*

BOILERS, &c.— (Letter for record *S*) Total Heating Surface of Boilers *3750*
 No. and Description of Boilers *Two single ended multi-tubular* Working Pressure *160* Tested by hydraulic pressure to *320*
 Date of test *31.10.93* Can each boiler be worked separately *Yes* Area of fire grate in each boiler *42.5* No. and Description of safety valves to
 each boiler *Two spring direct* Area of each valve *8.3* Pressure to which they are adjusted *15.5-17.5* Are they fitted
 with easing gear *Yes* Smallest distance between boilers or uptakes and bunkers *on woodwork 18"* Mean diameter of boilers *14'-9"*
 Length *10'-0"* Material of shell plates *Steel* Thickness *1 3/16"* Description of riveting: circum. seams *Treble* long. seams *Treble*
 Diameter of rivet holes in long. seams *1 3/16"* Pitch of rivets *8"* Lap of plates or width of butt straps *9 1/2" & 17 3/4"*
 Per centages of strength of longitudinal joint *86.6* Working pressure of shell by rules *163.5* Size of manhole in shell *and 16 x 12"*
 Size of compensating ring *✓* No. and Description of Furnaces in each boiler *3 ribbed (Brown)* Material *Steel* Outside diameter *43 1/2"*
 Length of plain part *top 4"* Thickness of plates *crown 1 1/2"* Description of longitudinal joint *weld* No. of strengthening rings *✓*
 bottom *8"* bottom *1 1/2"*
 Working pressure of furnace by the rules *160* Combustion chamber plates: Material *Steel* Thickness: Sides *19/32"* Back *19/32"* Top *19/32"* Bottom *7/8"*
 Pitch of stays to ditto: Sides *8 1/2" x 8 1/2"* Back *8 1/2" x 8"* 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 *1.383* Area supported by each stay *74.39* Working pressure by rules *161.3* End plates in steam space:
 Material *Steel* Thickness *1"* Pitch of stays *6 1/16" x 6 1/16"* How are stays secured *nuts* Working pressure by rules *161.0* Material of stays *Steel*
 Diameter at smallest part *2.53* Area supported by each stay *278.2* Working pressure by rules *163.4* Material of Front plates at bottom *Steel*
 Thickness *3/4"* Material of Lower back plate *Steel* Thickness *1"* Greatest pitch of stays *14"* Working pressure of plate by rules *176.3*
 Diameter of tubes *3 1/4"* Pitch of tubes *4 1/2"* Material of tube plates *Steel* Thickness: Front *15/16"* Back *5/8"* Mean pitch of stays *9 x 9"*
 Pitch across wide water spaces *14 1/4"* Working pressures by rules *166.2 & 172.8* Girders to Chamber tops: Material *Steel* Depth and
 thickness of girder at centre *8" x 5 1/8"* Length as per rule *24"* Distance apart *8 1/2"* Number and pitch of Stays in each *one 8 1/2"*
 Working pressure by rules *168.3* 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— Description *Cir^l vert^l Cochran's Patent*
Made at *Birmingham* By whom made *Cochran & Co* When made _____ Where fixed *Stoke Newington*
Working pressure *80* tested by hydraulic pressure to *160* No. of Certificate *1966* Fire grate area *20.5* Description of safety valves *Spring Direct*
No. of safety valves *Two* Area of each _____ Pressure to which they are adjusted *85* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *no* Diameter of donkey boiler *6'-6"* Length *13'-6"* Material of shell plates *Steel* Thickness *7/16"*
Description of riveting long. seams *Double C single top* Diameter of rivet holes *15/16"* Whether punched or drilled *Drilled* Pitch of rivets *2 3/8"*
Lap of plating *4 1/16"* Per centage of strength of joint _____ Rivets *89.4* Thickness of shell crown plates *13/32"* Radius of do. *Hemispherical*
Dia. of stays. *✓* Diameter of furnace Top *5'-4"* Bottom *5'-4"* Length of furnace *Circular* Thickness of furnace plates *9/16"* Description of joint *Single riv. lap* Thickness of ~~furnace crown~~ *tube* plates *5/8"* Stayed by *tube stays pitched 10 1/16" 10 1/16"* Working pressure of shell by rules *81.5*
Working pressure of furnace by rules *80.0* Diameter of uptake *17x19"* Thickness of uptake plates *1/2"* Thickness of water tubes *none*

SPARE GEAR. State the articles supplied:— *One set connecting rod bolts top & bottom. One set coupling bolts. Two main bearing bolts. One set feed & tilge pump valves. One set springs for HP piston. 120 bolts & nuts assorted. 6 bars iron. 1 propeller. 1/2 crank shaft. 1 tail shaft*

The foregoing is a correct description,

FOR THE CENTRAL MARINE ENGINE WORKS,

Manufacturer of main engines and boilers

Thomas Mudd

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

The main engines and boilers of this vessel have been constructed under special survey and are of good workmanship. The boiler material has been tested as required by the rules. The boilers and main steam pipes have been tested by hydraulic pressure to 320 lbs. The engines and boilers have been tried under steam and all safety valves adjusted and are in my opinion eligible to have L.M.C. 1.94 recorded in the Register book

It is submitted that
this vessel is eligible for
THE RECORD + L.M.C. 1-94

W.A.
24-1-94

MACHINERY CERTIFICATE
WRITTEN.

Certificate (if required) to be sent to

The amount of Entry Fee..	£ 2 : 0 :	When applied for,
Special	£ 32 : 17 :	<i>23.1.94</i>
Donkey Boiler Fee	£ :	When received,
Travelling Expenses (if any) £	:	<i>23.1.94</i>

A.G.Paton
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

Assigned

FRI 26 JAN 1894

+ L.M.C. 1.94



© 2020

Lloyd's Register
Foundation