

REPORT ON MACHINERY.

No. 2170

Port of Sunderland

MON. 7 MAR 1904

No. in Survey held at SunderlandDate, first Survey 30 Oct 1903Last Survey 19 Feb 1904

Reg. Book.

(Number of Visits)

on the Steel Screw Steamer "Torrise"Master C. RuaultBuilt at SunderlandBy whom built Sunderland S.B.C. Ltd.Tons { Gross 502
Net 293When built 1904Engines made at SunderlandBy whom made McCull + Pollock Ltd.when made 1904Boilers made at SunderlandBy whom made McCull + Pollock Ltd.when made 1904

Registered Horse Power

Owners R. BigoPort belonging to CalaisNom. Horse Power as per Section 28 82Is Refrigerating Machinery fitted noIs Electric Light fitted noENGINES, &c.—Description of Engines Inverted Triple Expansion No. of Cylinders Three No. of Cranks ThreeDia. of Cylinders 13½-22-34 Length of Stroke 24 Revs. per minute 90 Dia. of Screw shaft as per rule 7.62 Material of light steelIs 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 tightin 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 partbetween the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive — If twoliners are fitted, is the shaft lapped or protected between the liners — Length of stern bush 2-4½Dia. of Tunnel shaft as per rule 6.64 Dia. of Crank shaft journals as per rule 4.05 Dia. of Crank pin 7¼ Size of Crank webs 1½x4½ Dia. of thrust shaft undercollars ¼ Dia. of screw 9-6 Pitch of screw 12-0 No. of blades four State whether moveable no Total surface 38.5No. of Feed pumps Two Diameter of ditto 2¼ Stroke 12 Can one be overhauled while the other is at work yesNo. of Bilge pumps Two Diameter of ditto 2¼ Stroke 12 Can one be overhauled while the other is at work yesNo. of Donkey Engines Two Sizes of Pumps Bullet 6x5¼x6 No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room Two 2" mips, one Centre 2" In Holds, &c. Main Hold Two 2" mips,after Hold Two 2" mips, after mill 2" CentreNo. of bilge injections one sizes 3 Connected to condenser, or to circulating pump pump Is a separate donkey suction fitted in Engine room & size yes 3"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 yesAre all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks ValvesAre 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 aboveAre 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 yesWhat 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 yesAre the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges yesWhen were stern tube, propeller, screw shaft, and all connections examined in dry dock 29 Aug 1904 Is the screw shaft tunnel watertight yesIs it fitted with a watertight door yes worked from Top platformBOILERS, &c.—(Letter for record (S) Total Heating Surface of Boilers 1393.5 Is forced draft fitted noNo. and Description of Boilers one single ended 2 plain furn. Working Pressure 180 lb. Tested by hydraulic pressure to 360 lb.Date of test 21/12/03 Can each boiler be worked separately — Area of fire grate in each boiler 41.4 No. and Description of safety valves toeach boiler Two direct spring Area of each valve 4.915 Pressure to which they are adjusted 180 lb. Are they fitted with easing gear yesSmallest distance between boilers or uptakes and bunkers or woodwork 12" Mean dia. of boilers 12-6 Length 10-0 Material of shell plates steelThickness 1½ Range of tensile strength 28½ Are they welded or flanged no Descrip. of riveting: cir. seams L.S.R. long. seams S.B.S.-TRDiameter of rivet holes in long. seams 1½ Pitch of rivets 7¾ Lap of plates or width of butt straps 15-¾Per centages of strength of longitudinal joint 92.5 Working pressure of shell by rules 182.9 Size of manhole in shell end 16x12Size of compensating ring flanged No. and Description of Furnaces in each boiler Two plain Material steel Outside diameter 43Length of plain part top 45 Thickness of plates bottom 64 Description of longitudinal joint welded No. of strengthening rings oneWorking pressure of furnace by the rules 182.9 Combustion chamber plates: Material steel Thickness: Sides ¾ Back ¾ Top ¾ Bottom ¾Pitch of stays to ditto: Sides 8½x10½ Back 9½x9½ Top 8x9 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 183 lb.Material of stays steel Diameter at smallest part 1.7+1.63 Area supported by each stay 86 Working pressure by rules 186 lb. End plates in steam space:Material steel Thickness 3½ Pitch of stays 16½x13¾ How are stays secured 5-11 Working pressure by rules 182.2 lb. Material of stays steelDiameter at smallest part 2.38 Area supported by each stay 227 Working pressure by rules 81.4 lb. Material of Front plates at bottom steelThickness 1½ Material of Lower back plate steel Thickness 25 Greatest pitch of stays 12½ Working pressure of plate by rules 180.5 lb.Diameter of tubes 3¼ Pitch of tubes 4½x4½ Material of tube plates steel Thickness: Front 13 Back 13 Mean pitch of stays 10½Pitch across wide water spaces 14¼ Working pressures by rules 186.9 lb. Girders to Chamber tops: Material steel Depth andthickness of girder at centre 7½x1½ Length as per rule 24¼ Distance apart 8" Number and pitch of Stays in each oneWorking pressure by rules 185 lb. Superheater or Steam chest; how connected to boiler — Can the superheater be shut off and the boiler workedseparately — Diameter — Length — Thickness of shell plates — Material — Description of longitudinal joint — Diam. of rivetholes — 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. *one* Description *(starboard side of stockhold) Vertical 2 cross tubes*
 Made at *Stockton* By whom made *Riley Bros.* When made *1904* Where fixed *in shore*
 Working pressure *100 lb.* tested by hydraulic pressure to *200 lb.* No. of Certificate *3141* Fire grate area *23.75 sq ft* Description of safety valves *direct spring*
 No. of safety valves *two* Area of each *4.91 sq ft* Pressure to which they are adjusted *100 lb.* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Dia. of donkey boiler *6'-0"* Length *7'-6"* Material of shell plates *steel* Thickness *15/32"* Range of tensile strength *28-32* Descrip. of riveting long. seams *lap 5R* Dia. of rivet holes *5/16"* Whether punched or drilled *drilled* Pitch of rivets *3 1/4"*
 Lap of plating *4 3/4"* Per centage of strength of joint *78* Rivets *78* Thickness of shell crown plates *9/16"* Radius of do. *5 ft.* No. of Stays to do. *seven*
 Dia. of stays. *1 7/8"* Diameter of furnace Top *5'-0"* Bottom *5'-6"* Length of furnace *2'-4"* Thickness of furnace plates *9/16"* Description of joint *Lap 5R* Thickness of furnace crown plates *7/8"* Stayed by *cross stays* Working pressure of shell by rules *115 lb.*
 Working pressure of furnace by rules *104 lb.* Diameter of uptake *14"* Thickness of uptake plates *1/4"* Thickness of water tubes *3/8"*

SPARE GEAR. State the articles supplied:— *Two each top end, bottom end, & main bearing belts & nuts, one set coupling belts & nuts, one set each feed & bilge pump valves one screw propeller—*

The foregoing is a correct description,

Manufacturer.

MIDGELL & POLLOCK, LTD.

ESR Pollock

Managing Director.

Dates
of Survey
while
building

During progress of
work in shops—
During erection on
board vessel—
Total No. of

1903- Sep 3. 21. 30 Oct 16 Nov 3. 11. 19. 25 Dec 1. 10. 18. 21. - 1904- Jan 15
22. 29 Feb 5. 4. 9. 11. 19

20

Is the approved plan of main boiler forwarded herewith

Yes

" " " donkey " " " Yes

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

The machinery of this vessel has been constructed under special survey, the material and workmanship sound and good, the Boilers and steam pipes tested by hydraulic pressure in accordance with the Rules. The machinery worked satisfactorily and the safety valves of the Main and Donkey Boilers have been adjusted to the working pressure and easing gear fitted.

*This vessel is eligible in our opinion to have the notation *LMC 2,04 in the Register Book*

It is submitted that
this vessel is eligible for
THE RECORD

*LMC 2,04

The amount of Entry Fee. £ 1 : : When applied for,
Special £ 12 : 6 : 27. 3. 1904
Donkey Boiler Fee £ : : When received,
Travelling Expenses (if any) £ : : 2. 3. 1904

Committee's Minute

Assigned

MACHINERY CERTIFICATE
WRITTEN (6. 3. 04)



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Lloyd's Register
Foundation

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