

REPORT ON MACHINERY.

Port of *Newcastle-on-Tyne*

Sat. 14 JUN 1902

No. in Survey held at *Newcastle-on-Tyne*Date, first Survey *Nov 10*

Received at London Office

Last Survey *June 6*

1902

Reg. Book.

on the *5/3 "Pure Oil"*(Number of Visits *25*)Tons { Gross *4487*Net *2917*When built *1902*Master *Moige*Built at *Newcastle*By whom built *Armstrong Whitworth & Co.*Engines made at *Newcastle*By whom made *Walsland Shipway & Eng. Co.*when made *1902*Boilers made at *Newcastle*By whom made *Walsland Shipway & Eng. Co.*when made *1902*

Registered Horse Power

Owners *Pure Oil Co.*Port belonging to *Hamburg*Nom. Horse Power as per Section 28 *412*Is Refrigerating Machinery fitted *No*Is Electric Light fitted *Yes*ENGINES, &c.—Description of Engines *Triplic Expansion*No. of Cylinders *3*No. of Cranks *3*Dia. of Cylinders *25" 42" 70"*Length of Stroke *48"*Revs. per minute *70*Dia. of Screw shaft *as per rule 14.2"*as fitted *14.2"*Lgth. of stern bush *5'-0"*Dia. of Tunnel shaft *as per rule 13.3"*as fitted *13.3"*Dia. of Crank shaft journals *as per rule 13.3"*as fitted *13.3"*Dia. of Crank pin *13.3"*Size of Crank webs *9 1/2"*

Dia. of thrust shaft under

Walls *13 1/4"*Dia. of screw *17'-6"*Pitch of screw *18'-0"*No. of blades *4*State whether moveable *Yes*Total surface *98'*No. of Feed pumps *2*Diameter of ditto *10 1/2" x 12"*Stroke *duplex*Can one be overhauled while the other is at work *Yes*No. of Bilge pumps *2*Diameter of ditto *4 1/2"*Stroke *26"*Can one be overhauled while the other is at work *Yes*No. of Donkey Engines *2*Sizes of Pumps *10 1/2" x 12" 16 1/2" x 6"*

No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room *Five 3 1/2"*In Holds, &c. *one in fore peak 3" two in fore hold 3" one in*

forward hold 3" one 6" suction in each tank & after hold 3" one in

No. of bilge injections *1* sizes *7"*Connected to condenser or to circulating pump *Yes*Is a separate donkey suction fitted in Engine room & size *4 1/2" 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*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 *Yes*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*Is the screw shaft tunnel watertight *None*Is it fitted with a watertight door *Yes*worked from *Yes*BOILERS, &c.—(Letter for record *Yes*)Total Heating Surface of Boilers *7032'*Is forced draft fitted *No*and Description of Boilers *Three simple Endless*Working Pressure *180 lbs*Tested by hydraulic pressure to *360 lbs*Date of test *22/1/02*Can each boiler be worked separately *Yes*Area of fire grate in each boiler *65 1/2'*

No. and Description of safety valves to

boiler *Two spring valves*Area of each valve *9.62"*Pressure to which they are adjusted *185 lbs*Are they fitted with easing gear *Yes*Least distance between boilers or uptakes and bunkers or woodwork *12"*Mean dia. of boilers *15'-0"*Length *11'-9"*Material of shell plates *S*Thickness *1 3/4"*Range of tensile strength *29-32*Are they welded or flanged *No*Descrip. of riveting: cir. seams *d. & h. riv.*long. seams *d. & h. riv.*Diameter of rivet holes in long. seams *1 1/2"*Pitch of rivets *9 1/8"*Lap of plates or width of butt straps *2 1/2"*

Percentages of strength of longitudinal joint

rivets *91.7*plate *85.0*Working pressure of shell by rules *215*Size of manhole in shell *16 1/2"*Diameter of compensating ring *7 1/2"*No. and Description of Furnaces in each boiler *3 Furnaces*Material *S*Outside diameter *47 1/2"*

Thickness of plain part

top *3 1/2"*crown *3 1/2"*bottom *3 1/2"*Description of longitudinal joint *Welded*No. of strengthening rings *Yes*Working pressure of furnace by the rules *199*Combustion chamber plates: Material *S*Thickness: Sides *5/8"*Back *5/8"*Top *5/8"*Bottom *3/32"*Diameter of stays to ditto: Sides *8 1/4" x 7 1/2"*Back *8" x 8"*Top *8" x 8"*If stays are fitted with nuts or riveted heads *Nuts*Working pressure by rules *204*Material of stays *2mm*Diameter at smallest part *1 5/8"*Area supported by each stay *66"*Working pressure by rules *231*

End plates in steam space:

Material *S*Thickness *3/32"*Pitch of stays *15 5/8" x 14 1/2"*How are stays secured *d. n. riv.*Working pressure by rules *182*Material of stays *S*Diameter at smallest part *2 7/32"*Area supported by each stay *230"*Working pressure by rules *219*Material of Front plates at bottom *S*Thickness *1"*Material of Lower back plate *S*Thickness *1 5/8"*Greatest pitch of stays *13' x 8"*Working pressure of plate by rules *194*Diameter of tubes *3"*Pitch of tubes *4 3/8" x 4 1/8"*Material of tube plates *S*Thickness: Front *1"*Back *25/32"*Mean pitch of stays *8 1/2"*Distance across wide water spaces *14"*Working pressures by rules *195*Girders to Chamber tops: Material *S*

Depth and

Weight of girder at centre *11' x 1 1/2"*Length as per rule *39'*Distance apart *8"*Number and pitch of Stays in each *3. 8 1/2"*Working pressure by rules *187*Superheater or Steam chest; how connected to boiler *None*

Can the superheater be shut off and the boiler worked

tely *Yes*Diameter *Yes*Length *Yes*Thickness of shell plates *Yes*Material *Yes*Description of longitudinal joint *Yes*

Diam. of rivet

Pitch of rivets *Yes*Working pressure of shell by rules *Yes*Diameter of flue *Yes*Material of flue plates *Yes*Thickness *Yes*Reinforced with rings *Yes*Distance between rings *Yes*Working pressure by rules *Yes*End plates: Thickness *Yes*How stayed *Yes*Working pressure of end plates *Yes*Area of safety valves to superheater *Yes*Are they fitted with easing gear *Yes*

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DONKEY BOILER—

No. *100* Description ☒

Made at _____ By whom made _____ When made _____ Where fixed _____
Working pressure _____ tested by hydraulic pressure to _____ No. of Certificate _____ Fire grate area _____ Description of safety valves _____
No. of safety valves _____ Area of each _____ Pressure to which they are adjusted _____ If fitted with easing gear _____ If steam from main boilers can
enter the donkey boiler _____ Dia. of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____ Range of tensile
strength _____ Descrip. of riveting long. seams _____ Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____
Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Thickness of shell crown plates _____ Radius of do. _____ No. of Stays to do. _____
Dia. of stays _____ Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of
joint _____ Thickness of furnace crown plates _____ Stayed by _____ Working pressure of shell by rules _____
Working pressure of furnace by rules _____ Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____

SPARE GEAR. State the articles supplied:— *One propeller shaft, two top end & two bottom end con.
rod bolts & nuts, two main bearing bolts, one set fuel & bilge pump valves, one set
coupling bolts, assorted bolts & nuts, Iron of various sizes.*

The foregoing is a correct description.

Manufacturer.

Dates of Survey while building
During progress of work in shops—
During erection on board vessel—
Total No. of visits

1901 Nov. 7. 18. Dec. 3. 1902 Jan. 10. 16. 22. 24. 30. Feb. 5. 10. 21. Mch. 6. 20. Apl. 10. 17. 18. 22. 26. May 5. 12. 15.
27 June 26
20

Is the approved plan of main boiler forwarded herewith *YLS*" " " donkey " " " ☒

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

Material of screw shaft *Steel* Is the screw shaft fitted with a continuous liner the whole length of the stern tube *YLS*
Is the after end of the liner made water tight in the propeller boss *YLS* 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 of this vessel has been constructed under special survey.
The materials and workmanship are sound and good and under
the vessel class in my opinion to have record of L.M.C. 6.02*

It is submitted that
this vessel is eligible for
THE RECORD. + L.M.C. 6.02

Ele. light.

The amount of Entry Fee. £ *3* : . : When applied for, *12 JUN 1902*
Special £ *40 12* : . :
Donkey Boiler Fee £ . : . : When received, *21/6/02*
Travelling Expenses (if any) £ . : . : 1902

Committee's Minute

Assigned

TUES. 17 JUN 1902

*+ L.M.C. 6.02*MACHINERY CERTIFICATE
WRITTEN.

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