

REPORT ON MACHINERY.

Port of *Glasgow*

FRI. 28 JUL 1899

Received at London Office 18

No. in Survey held at *Glasgow*Date, first Survey *8 February 1898* Last Survey *11 July 1899*

7. Book.

(Number of Visits *35*)on the *S.S. Minchester.*

ster

Built at *Port Glasgow* By whom built *M Hamilton & Co* When built *1899.*ines made at *Glasgow*By whom made *David Rowan & Co* when made *1899.*lers made at *Glasgow*By whom made *David Rowan & Co* when made *1899.*

istered Horse Power

Owners *Galbraith Pembroke & Co* Port belonging to *London.*a. Horse Power as per Section 28 *301.*Is Electric Light fitted *No.*

INES, &c.—Description of Engines

*Triple Expansion*No. of Cylinders *3*No. of Cranks *3*meter of Cylinders *24, 40 & 65* Length of Stroke *42* Revolutions per minute *65* Diameter of Screw shaft as per rule *12.42*meter of Tunnel shaft as fitted *11.3/4* Diameter of Crank shaft journals *11.5/3* Diameter of Crank pin *12 1/2* Size of Crank webs *22 1/2 x 8 1/2*meter of screw *16-6* Pitch of screw *18-6/11-6* No. of blades *4* State whether moveable *No* Total surface *80 sq ft*of Feed pumps *2* Diameter of ditto *3 1/4* Stroke *21* Can one be overhauled while the other is at work *Yes*of Bilge pumps *2* Diameter of ditto *4* Stroke *21* Can one be overhauled while the other is at work *Yes*of Donkey Engines *Three* Sizes of Pumps *(8x5x8) (8x10x8) (4 1/2 x 2 1/2 x 5)* No. and size of Suctions connected to both Bilge and Donkey pumpsEngine Room, *One 3" port, one 3" star, one 3" each side keelson* In Holds, &c. *One 3" port, one 3" star in No 1*& *3 holds, one 3 1/2" in No 4 & one 3 1/2" in tunnel well.*of bilge injections *one size 5* Connected to condenser or to circulating pump *Yes* Is a separate donkey-suction fitted in Engine room & size *Yes 3 1/2"*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*all connections with the sea direct on the skin of the ship *Yes* Are they Valves or Cocks *both*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 & below*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*t pipes are carried through the bunkers *bilge pipes to No 1 & 2 holds* How are they protected *wood boxing*all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times *Yes*the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges *Yes*were stern tube, propeller, screw shaft, and all connections examined in dry dock *before launch* Is the screw shaft tunnel watertight *Yes*fitted with a watertight door *Yes* worked from *Top engine room platform.*ERS, &c.— (Letter for record *S*) Total Heating Surface of Boilers *4691 sq ft* Is forced draft fitted *No*and Description of Boilers *Two Single Ended* Working Pressure *180 lb* Tested by hydraulic pressure to *360 lb.*of test *16/6/99* Can each boiler be worked separately *Yes* Area of fire grate in each boiler *70.5 sq ft* No. and Description of safety valves toboiler *Two direct spring* Area of each valve *8.29 sq ft* Pressure to which they are adjusted *185 lb.* Are they fittedeasing gear *Yes* Smallest distance between boilers or uptakes and bunkers or woodwork *16"* Mean diameter of boilers *15-6"**10-9"* Material of shell plates *Steel* Thickness *19/32* Description of riveting: circum. seams *Double R Lap* long. seams *Butt*ter of rivet holes in long. seams *1 3/8"* Pitch of rivets *9/8"* Lap of plates or width of butt straps *19 7/8 x 1 9/32 in*ntages of strength of longitudinal joint rivets *94.3* Working pressure of shell by rules *184 lb* Size of manhole in shell *16" x 12"*of compensating ring *16" x 19/32* No. and Description of Furnaces in each boiler *3 Morrison* Material *Steel* Outside diameter *51 1/4"*h of plain part top *33"* Thickness of plates crown *19/32* Description of longitudinal joint *Welded* No. of strengthening rings *3 x 3 x 5/8"*ing pressure of furnace by the rules *184 lb* Combustion chamber plates: Material *Steel* Thickness: Sides *5/8"* Back *19/32* Top *5/8"* Bottom *11/16"*of stays to ditto: Sides *8 x 7 1/2* Back *8 x 8* Top *8 x 8 1/4* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *180*ial of stays *Steel* Diameter at smallest part *5.475"* Area supported by each stay *66 sq in* Working pressure by rules *185 lb* End plates in steam space:ial *Steel* Thickness *1 1/32* Pitch of stays *16 1/2 x 15 1/2* How are stays secured *Double nuts & washers* Working pressure by rules *191 lb* Material of stays *Steel*er at smallest part *5.260"* Area supported by each stay *256 sq in* Working pressure by rules *205* Material of Front plates at bottom *Steel*ess *13/16"* Material of Lower back plate *Steel* Thickness *1 1/16"* Greatest pitch of stays *14"* Working pressure of plate by rules *282*er of tubes *3 1/2"* Pitch of tubes *4 1/2"* Material of tube plates *Steel* Thickness: Front *2 3/32* Back *2 3/32* Mean pitch of stays *9"*across wide water spaces *14 1/2"* Working pressures by rules *212 lb* Girders to Chamber tops: Material *Iron* Depth andss of girder at centre *8 1/4 x 1 1/4"* Length as per rule *30"* Distance apart *8 1/4"* Number and pitch of Stays in each *Three, 8"*ing pressure by rules *198 lb* Superheater or Steam chest; how connected to boiler *None* Can the superheater be shut off and the boiler worked

ily Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

ned with rings Distance between rings Working pressure by rules End plates: Thickness How stayed

ing pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

1665

DONKEY BOILER— Description *See attached report.*

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 _____

Diameter of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____

Description of riveting long. seams _____ Diameter 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:— *As required by the rules & the following.*
One piston valve. set of HP & IP rings, one propeller shaft, one crank shaft, one valve spindle & one set of air pump valves.

The foregoing is a correct description, *David Rowan & Co.*
Manufacturer.

Dates of Survey while building	During progress of work in shops—	1898: Feb. 8. Mar. 28. May. 12. 31. June. 9. 13. Oct. 22. Dec. 2. 20. 23. Mar. 10. 16. 23. 29. April. 5. 12. 25. 26. 27.
	During erection on board vessel—	29. May. 3. 12. 19. 22. 25. 30. June. 8. 13. 17. 20. 29. July. 5. 6. 10. 11.
	Total No. of visits	35

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

ENGINES—Length of stern bush *44"* Diameter of crank shaft journals *as per rule 11.83"* Diameter of thrust shaft under collars *12"*

BOILERS—Range of tensile strength *27/32* Are they welded or flanged *Neither* **DONKEY BOILERS**—No. *1* Range of tensile strength *27/32*

Is the approved plan of main boiler forwarded herewith *yes.* Is the approved plan of donkey boiler forwarded herewith *yes.*

The machinery of this vessel has been built under special survey. The material & workmanship being of good quality, it has been securely fitted on board, and a satisfactory full speed trial run.

In our opinion the machinery of this vessel is now eligible for record of L.M.C. 7-99 (in red) in register book.

Two boiler plans, one Greenock report & one forging report now forward. (all tunnel shafting made by Darlington Forge Co. No reports received.)

It is submitted that this vessel is eligible for THE RECORD. *+ L.M.C. 7-99*

28/7/99

The amount of Entry Fee...	£ 3	When applied for, 27/7/1899
Special	£ 35	
Donkey Boiler Fee	£	When received, 1.8.99
Travelling Expenses (if any) £	:	

George Spurdock & Wm R. Austin
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

FRI. 28 JUL 1899

MACHINERY CERTIFICATE WRITTEN.

Assigned

+ L.M.C. 7-99



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Greenock.
Certificate (if required) to be sent to

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