

REPORT ON MACHINERY.

No. 34259

Received at London Office

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Date of writing Report *Nov. 19 17* When handed in at Local Office

Port of *Glasgow*

No. in Survey held at *Glasgow*

Date, First Survey *1-6-16* Last Survey *6th November 1917*

Reg. Book. 1404 on the

S.S. MONTILLA

(Number of Visits)

Tons } Gross *6597*
Net *3500*

Master Built at *Glasgow* By whom built *Russell + Co (no 693)* When built *1914*

Engines made at *Glasgow* By whom made *D. Rowan + Co (no 650)* when made *1914*

Boilers made at *Glasgow* By whom made *D. Rowan + Co* when made *1914*

Registered Horse Power Owners *Blue Star Line Ltd* Port belonging to *London*

Nom. Horse Power as per Section 28 *548* Is Refrigerating Machinery fitted for cargo purposes *yes* Is Electric Light fitted *yes*

ENGINES, &c.—Description of Engines *Triple expansion* No. of Cylinders *3* No. of Cranks *3*

Dia. of Cylinders *24 1/2" x 41 1/2" x 40"* Length of Stroke *48"* Revs. per minute *80* Dia. of Screw shaft *as per rule 14.36* Material of screw shaft *Steel*

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 *one length* 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 *yes* If two

liners are fitted, is the shaft lapped or protected between the liners *yes* Length of stern bush *5' 4"*

Dia. of Tunnel shaft *as per rule 13.079* Dia. of Crank shaft journals *as per rule 13.733* Dia. of Crank pin *14 1/4"* Size of Crank webs *9"* Dia. of thrust shaft under

collars *14 1/4"* Dia. of screw *17' 0"* Pitch of Screw *16' 6"* No. of Blades *4* State whether moceable *yes* Total surface *925*

No. of Feed pumps *2* Diameter of ditto *10 1/2" x 8"* Stroke *21"* Can one be overhauled while the other is at work *yes*

No. of Bilge pumps *2* Diameter of ditto *4"* Stroke *24"* Can one be overhauled while the other is at work *yes*

No. of Donkey Engines *4* Sizes of Pumps *7' x 10' x 15" - 8' x 6' x 18" - 6' x 6' x 10" - 5' x 5' x 8"* No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room *four 3 1/2"* In Holds, &c. *two 3 1/2" in each hold*

One 2 1/2" in tunnel well

No. of Bilge Injections *1* sizes *6"* Connected to condenser, or to circulating pump *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 *none*

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 *sea lube suction* How are they protected *in limbers*

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*

Dates of examination of completion of fitting of Sea Connections *Greenock* of Stern Tube *Greenock* Screw shaft and Propeller *Greenock*

Is the Screw Shaft Tunnel watertight *yes* Is it fitted with a watertight door *yes* worked from *Deck Platform*

BOILERS, &c.—(Letter for record *S*) Manufacturers of Steel *Steel Coy of Scotland Ltd*

Total Heating Surface of Boilers *8433* Is Forced Draft fitted *yes* No. and Description of Boilers *3 single ended*

Working Pressure *200* Tested by hydraulic pressure to *400* Date of test *3-2-17* No. of Certificate *13688*

Can each boiler be worked separately *yes* Area of fire grate in each boiler *505* No. and Description of Safety Valves to

each boiler *double spring* Area of each valve *8.3"* Pressure to which they are adjusted *205 lbs* Are they fitted with easing gear *yes*

Smallest distance between boilers or uptakes and bunkers or woodwork *30"* Mean dia. of boilers *15' 0"* Length *12' 0"* Material of shell plates *Steel*

Thickness *1 2/4"* Range of tensile strength *28 to 32* Are the shell plates welded or flanged *no* Descrip. of riveting: cir. seams *D. Lap.*

long. seams *in Butt* Diameter of rivet holes in long. seams *1 3/8"* Pitch of rivets *9 1/2"* Lap of plates or width of butt straps *20 1/2"*

Per centages of strength of longitudinal joint rivets *87.6* Working pressure of shell by rules *205* Size of manhole in shell *16 x 12*

plate *85.5* Size of compensating ring *2' 7" x 2' 11"* No. and Description of Furnaces in each boiler *3 moulton* Material *Steel* Outside diameter *46"*

Length of plain part *top* Thickness of plates *bottom* *19"* Description of longitudinal joint *welded* No. of strengthening rings

Working pressure of furnace by the rules *205* Combustion chamber plates: Material *Steel* Thickness: Sides *3/32"* Back *3/32"* Top *3/32"* Bottom *3/32"*

Pitch of stays to ditto: Sides *8 5/16" x 8 7/8"* Back *7 1/8" x 8"* Top *8 3/8" x 8 3/4"* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *201*

Material of stays *Steel* Area at smallest part *2.07* Area supported by each stay *74* Working pressure by rules *210* End plates in steam space:

Material *Steel* Thickness *1 1/4"* Pitch of stays *15 1/2" x 20 1/2"* How are stays secured *2 nuts* Working pressure by rules *212* Material of stays *Steel*

Area at smallest part *7.06* Area supported by each stay *318* Working pressure by rules *230* Material of Front plates at bottom *Steel*

Thickness *1 1/4"* Material of Lower back plate *Steel* Thickness *3/32"* Greatest pitch of stays *14 1/4"* Working pressure of plate by rules *225*

Diameter of tubes *2 1/2"* Pitch of tubes *3 1/16" x 3 1/16"* Material of tube plates *Steel* Thickness: Front *1 1/4"* Back *13/16"* Mean pitch of stays *7 3/8" x 11 1/16"*

Pitch across wide water spaces *13 1/2"* Working pressures by rules *277-204* Girders to Chamber tops: Material *Steel* Depth and

thickness of girder at centre *10" x 4 1/8"* Length as per rule *35 1/2"* Distance apart *8 3/4"* Number and pitch of stays in each *3 @ 8 3/8"*

Working pressure by rules *223* 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

009640-009646-0026



VERTICAL DONKEY BOILER— *Manufacturers of Steel No Donkey Boiler fitted to vessel*

No.	Description				
Made at	By whom made		When made	Where fixed	
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area	Description of Safety
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted		Date of adjustment
If fitted with casing 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 Plates
Working pressure of shell by rules	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	
Working pressure of furnace by rules	Thickness of furnace crown plates		Radius of do.	Stayed by	
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey		

SPARE GEAR. State the articles supplied:— *Two top end bolts + nuts; Two Bottom end bolts + nuts; Two main bearing bolts + nuts; One set of coupling bolts; One set of feed + large pump valves; a quantity of assorted bolts + nuts*

The foregoing is a correct description,
for David Rowan Manufacturer.

Dates of Survey while building	During progress of work in shops ---	<i>1916 Jan. 1, 9, 12, July 10, 18, 21, 27, Aug 4, 10, 13, 14, 6, 11, 12, 15, 18, 24, 29, Oct. 3, 12, 16, 17, 19, 20, 24, 27, Nov. 1, 6, 8, 10, 13, 15, 17, 20, 28, 30, Dec. 4, 12.</i>	Is the approved plan of main boiler forwarded herewith <i>Yes</i>
	During erection on board vessel ---	<i>1917 Jan. 11, 29, 30, Feb. 3, 4, 7, 20, 24, Mar. 2, 13, 16, 24, 29, Apr. 1, 11, 24, May 2, 8, 11, 18, 25, 29, June 1, 14, 21, 27, July 19, 25.</i>	
	Total No. of visits	<i>Aug 2, 4, 16, 23, 4, 11, Oct. 3, 11, 2, 18, 23, 26, 27, 28, 29.</i>	

Dates of Examination of principal parts—	Cylinders <i>8/11/16</i>	Slides <i>12/12/16</i>	Covers <i>8/11/16</i>	Pistons <i>12/12/16</i>	Rods <i>19/12/16</i>
Connecting rods	<i>19/12/16</i>	Crank shaft	<i>13/11/16</i>	Thrust shaft	<i>5/2/17</i>
Stern tube	<i>30/11/16</i>	Steam pipes tested	<i>5/5/17</i>	Engine and boiler seatings	<i>Bremach</i>
Completion of pumping arrangements	<i>2/5/17</i>	Boilers fixed	<i>2/5/17</i>	Engines tried under steam	<i>6/11/17</i>
Main boiler safety valves adjusted	<i>11/5/17</i>	Thickness of adjusting washers	St Blr $\frac{5}{8}$ " $\frac{3}{8}$ " Cent Blr $\frac{7}{16}$ " $\frac{11}{32}$ " Pt Blr $\frac{5}{8}$ " $\frac{3}{8}$ "		
Material of Crank shaft	<i>Steel</i>	Identification Mark on Do.	<i>650 AMK 13-11-16</i>	Material of Thrust shaft	<i>Steel</i>
Material of Tunnel shafts	<i>Steel</i>	Identification Marks on Do.	<i>AMK 20-2-17</i>	Material of Screw shafts	<i>Steel</i>
Material of Steam Pipes	<i>W. S. Lape</i>	Test pressure	<i>600 lbs</i>		

General Remarks (State quality of workmanship, opinions as to class, &c.)
This engine & boilers have been built under special survey the materials and workmanship are of good description they have been well fitted on board and tried under steam.
This machinery is now in our opinion eligible to have notification of + LMC 11. 17 (in red) in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + LMC 11. 17. F.D.

J.M. J.W.D.
15/11/17

The amount of Entry Fee .. £ 3 : 0	When applied for, <i>13-11-1917</i>
Special .. £ 47 : 8	When received, <i>15-11-1917</i>
Donkey Boiler Fee .. £ ✓	
Travelling Expenses (if any) £ ✓	

A. McKeand *per H. Edgeman*
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **GLASGOW** 13 NOV. 1917

Assigned *+ L.M.C. 11, 17.*

MACHINERY CERTIFICATE WRITTEN. 14



GLASGOW

Certificate (if required) to be sent to

If not, state whether, and when, one visit to vessel

10/11/17