

REPORT ON MACHINERY.

No. 16063

Received at London Office

WED. 5 JUL 1911

Date of writing Report 22nd June 1911 When handed in at Local Office 21/6 1911 Port of Greenock
 No. in Survey held at Port Glasgow Date, First Survey 10th Nov. 1910 Last Survey 21st June 1911
 Reg. Book. on the PORT OF LONDON AUTHORITY. HOPPER N^o 10. (Number of Visits 62)

Master Built at Port Glasgow By whom built Ferguson Bros. When built 1911.
 Engines made at Port Glasgow By whom made Ferguson Bros. when made 1911.
 Boilers made at Port Glasgow By whom made Ferguson Bros. when made 1911.

Registered Horse Power 88 Owners Port of London Authority. Port belonging to London

Tom. Horse Power as per Section 28 133. Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted No.

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders Three No. of Cranks Three

Dia. of Cylinders 18½ - 25½ - 42 Length of Stroke 24 Revs. per minute 120 Dia. of Screw shaft as per rule 8.71 Material of steel
as fitted 9 screw shaft

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

the propeller boss Yes If the liner is in more than one length are the joints burned Yes 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 4.1

Dia. of Tunnel shaft as per rule 4.61 Dia. of Crank shaft journals as per rule 4.99 Dia. of Crank pin 8.4 Size of Crank webs 15½ x 5½ Dia. of thrust shaft under

collars 8.4 Dia. of screw 9.9 Pitch of Screw 11.3 No. of Blades 4 State whether moveable Yes Total surface 29.1 sq. ft.

No. of Feed pumps 2 Diameter of ditto 5.2 Stroke 15 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 3 Stroke 13½ Can one be overhauled while the other is at work Yes

No. of Donkey Engines One Sizes of Pumps 6" x 6" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps

in Engine Room 1 Stokehold 3 - 1 2½" dia + 1 2" dia In Holds, &c. Fore Hold: One - 2" dia No. 1 Port Comp. 1 2" dia

No. 2 Port Comp. 1 2" dia No. 1 Starb. Comp. 1 2" dia No. 2 Starb. Comp. 1 2" dia

No. of Bilge Injections 1 sizes 5" Connected to condenser, or to circulating pump C. P. Is a separate Donkey Suction fitted in Engine room & size Yes 2½"

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 Away

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 Forward Suctions How are they protected Cased in

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 10/5/11 of Stern Tube 10/5/11 Screw shaft and Propeller 10/5/11

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Yes

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

Total Heating Surface of Boilers 2500 Is Forced Draft fitted No No. and Description of Boilers 2: Cylindrical 5: Ind

Working Pressure 180 lb Tested by hydraulic pressure to 360 lb Date of test 3/12/11 No. of Certificate 1002

Can each boiler be worked separately Yes Area of fire grate in each boiler 40 sq. ft. No. and Description of Safety Valves to

each boiler 2: Direct Spring Loaded Area of each valve 3.98 Pressure to which they are adjusted 185 lb Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 4'6" Mean dia. of boilers 11'9" Length 10'6" Material of shell plates Steel

Thickness 1½" Range of tensile strength 28 to 32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap Double

long. seams Butt Strap Diameter of rivet holes in long. seams 1½" Pitch of rivets 8" Lap of plates or width of butt straps 16½"

Per centages of strength of longitudinal joint 85.9 Working pressure of shell by rules 201 lb Size of manhole in shell 16" x 12"

Size of compensating ring As per rule 19 No. and Description of Furnaces in each boiler 2: Deighton Material Steel Outside diameter 48"

Length of plain part top 6'9" Thickness of plates bottom 5" Description of longitudinal joint Weld No. of strengthening rings None

Working pressure of furnace by the rules 195 lb Combustion chamber plates: Material Steel Thickness: Sides 5" Back 5" Top 5" Bottom 1½"

Pitch of stays to ditto: Sides 8½ x 8½ Back 8 x 9 Top 8 x 9 If stays are fitted with nuts or riveted heads Auto Working pressure by rules 188 lb

Material of stays Steel Diameter at smallest part 1½" Area supported by each stay 32" Working pressure by rules 255 lb End plates in steam space:

Material Steel Thickness 1½" Pitch of stays 16 x 16 How are stays secured Stc. nuts Working pressure by rules 194 lb Material of stays Steel

Diameter at smallest part 2½" Area supported by each stay 240" Working pressure by rules 228 lb Material of Front plates at bottom Steel

Thickness 1½" Material of Lower back plate Steel Thickness 2" Greatest pitch of stays 13½" Working pressure of plate by rules 182 lb

Diameter of tubes 3½" Pitch of tubes 4½ x 4½ Material of tube plates Steel Thickness: Front 1½" Back 1½" Mean pitch of stays 11½"

Pitch across wide water spaces 13½" Working pressures by rules 180 lb 186 lb Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 8½" x 1½" Length as per rule 29½" Distance apart 8" Number and pitch of stays in each 3: 7"

Working pressure by rules 207 lb Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked

separately Yes 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 Lloyd's Register

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

VERTICAL DONKEY BOILER— Manufacturers of Steel

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 Sp
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment	
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 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	Stayed by			
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey		

SPARE GEAR. State the articles supplied :— 1 Propeller Blade 6 Propeller Blade Studs 1 set Coupling Bolts, 1 Piston Rod 1 Air pump Rod 2 main Bearing Bolts 2 Crosshead Bolts, 2 Crank pin Bolts 12 Joint Ring Bolts 1 set Crank pin Bushes, 1 set Feed pump valves & seats 1 set Air pump valves & seats 1 set Bilge pump valves, 1 set Piston Rings for each Piston 24 Condenser tubes & 8 stems for same, 2 main Feed check valves, 20 1/2" feed check valves
The foregoing is a correct description, Quantity of Bolts & nuts etc. as above signed
Manufacturer. *Angus & Co.*

Dates of Survey while building	{	During progress of work in shops - -	1910. Nov. 10. 15. 18. 23. 25. 29. Dec. 2. 5. 7. 13. 16. 19. 21. 23. 26. 28. 1911. Jan. 6. 11. 13. 18. 23. 24. 27. 30. Feb. 1. 3. 7. 10. 16. 21.
		During erection on board vessel - -	28. Mar. 2. 6. 9. 14. 17. 20. 23. 29. 30. Apr. 4. 6. 11. 13. 25. May. 1. 8. 10. 12. 16. 17. 19. 23. 27. June 6. 7. 9. 10. 14. 16. 21.
		Total No. of visits	62.

Is the approved plan of main boiler forwarded herewith ☒ Yes

" " " donkey " " " ☒

Dates of Examination of principal parts—Cylinders 14/3/11 Slides 14/3/11 Covers 21/6/11 Pistons 23/3/11 Rods 23/3/11 Connecting rods 14/3/11 Crank shaft 14/3/11 Thrust shaft 4/4/11 Tunnel shafts ✓ Screw shaft 4/4/11 Propeller 8/5/11 Stern tube 8/5/11 Steam pipes tested 19/5/11 } Engine and boiler seatings 10/5/11 Engines holding down bolts 9/6/11 Completion of pumping arrangements 21/6/11 Boilers fixed 9/6/11 Engines tried under steam 21/6/11 Main boiler safety valves adjusted 14/6/11 Thickness of adjusting washers Port Boiler PV 3/4" 50 1/2". Starb. Boiler PV 3/4" 50 1/2". Material of Crank shaft Steel Identification Mark on Do. 1004 Material of Thrust shaft Steel Identification Mark on Do. 1004 Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Steel Identification Marks on Do. 1004 Material of Steam Pipes Copper ✓ Test pressure 1400 lb. ✓

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

The Engines & Boilers of this vessel were built under special survey and the materials and workmanship are good. When completed they were examined under steam and found to be satisfactory.

The machinery throughout is now in good and efficient condition and eligible in my opinion to have the record of **LMC 6.11** marked in the Society's Register Book.

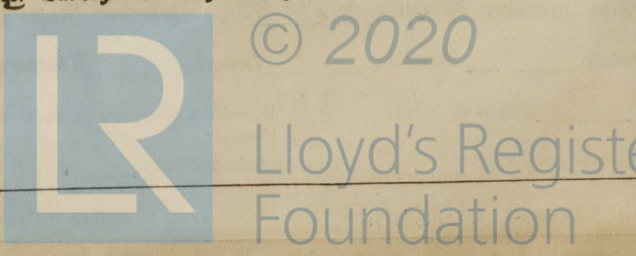
It is submitted that this vessel is eligible for THE RECORD. + LMC 6.11.

JWD
6/7/11
APR

The amount of Entry Fee..	£ 2 : : :	When applied for.	22/6/1911.
Special ..	£ 19. 19 : :	When received,	11/7/1911.
Donkey Boiler Fee ..	£ : : :		
Travelling Expenses (if any) £	: : :		

Committee's Minute *Glasgow* 4-JUL-1911
Assigned + LMC 6.11.

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



Certificate (if required) to be sent to
Greenock.
3-7-11.