

REPORT ON MACHINERY.

No. 32255

Received at London Office

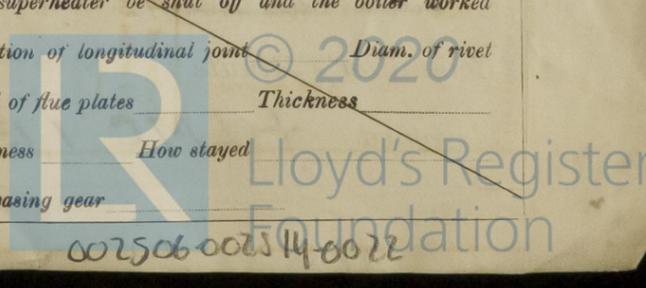
WED. JAN. 22. 1913

Date of writing Report 19 When handed in at Local Office 18. 1. 1913 Port of Glasgow
 No. in Survey held at Clydebank Date, First Survey 29. 5. 12 Last Survey 15. 1. 1913
 Reg. Book. on the % Carnalea (Number of Visits 18)
 Master J. Robinson Built at Bowling By whom built Scott & Sons Tons Gross 579 Net 233
 Engines made at Clydebank By whom made Aitchison Blair & Co. when made 1913
 Boilers made at Glasgow By whom made Dunsmuir & Jackson when made 1913
 Registered Horse Power Owners John Kelly & Co. Port belonging to Belfast
 Nom. Horse Power as per Section 28 113 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 15-25 1/2-41 Length of Stroke 30 Revs. per minute 105 Dia. of Screw shaft as per rule 8.34 as fitted 8 3/8 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 — 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 — Length of stern bush 2'-10 5/8"
 Dia. of Tunnel shaft as per rule 4.6 as fitted none Dia. of Crank shaft journals as per rule 7.99-8.16 as fitted 8 1/4 Dia. of Crank pin 8 1/4 Size of Crank webs 5 1/2 x 11 3/4 Dia. of thrust shaft under collars 8 1/4 Dia. of screw 10'-0" Pitch of Screw 13'-6" No. of Blades 4 State whether moveable no Total surface 33.3 sq ft
 No. of Feed pumps 2 Diameter of ditto 2 1/4 Stroke 16 1/2 Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 2 1/4 Stroke 16 1/2 Can one be overhauled while the other is at work yes
 No. of Donkey Engines 2 Sizes of Pumps duplex 7-4 1/2 x 8 7-8 x 8 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 1 of 2" In Holds, &c. Hold 2 of 2 1/2"

No. of Bilge Injections 1 sizes 4" Connected to condenser, or to circulating pump and pp Is a separate Donkey Suction fitted in Engine room & size yes 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 bilge & ballast How are they protected wood casings
 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 18. 11. 12 of Stern Tube 18. 11. 12 Screw shaft and Propeller 18. 11. 12
 Is the Screw Shaft Tunnel watertight none Is it fitted with a watertight door — worked from —

BOILERS, &c.—(Letter for record) Manufacturers of Steel For particulars see separate report
 Total Heating Surface of Boilers 1938 Is Forced Draft fitted no No. and Description of Boilers one - Single ended
 Working Pressure 180 lbs. Tested by hydraulic pressure to — Date of test — No. of Certificate —
 Can each boiler be worked separately — Area of fire grate in each boiler — No. and Description of Safety Valves to each boiler 2 direct spring Area of each valve 5.93 sq. Pressure to which they are adjusted 185 lbs. Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 6'-0" Mean dia. of boilers Length Material of shell plates
 Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams
 long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps
 Per centages of strength of longitudinal joint rivets..... Working pressure of shell by rules Size of manhole in shell plate.....
 Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter
 Length of plain part top..... Thickness of plates crown..... Description of longitudinal joint No. of strengthening rings bottom.....
 Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom
 Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules
 Material of stays Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space:
 Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays
 Diameter at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom
 Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules
 Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays
 Pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each
 Working pressure by rules Superheater or Steam chest; how connected to boiler 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



002506 002514 0022

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 Safety
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	
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:— 2 top end, 2 bottom end, 2 main bearing and set of coupling bolts nuts set of feed bilge pump valves. Assorted iron, bolts nuts.

AITCHISON, BLAIR LTD.

The foregoing is a correct description,

Manufacturer. Arch^d Blair Director

Dates of Survey while building: During progress of work in shops -- 1912 May 29. June 28. July 10. Aug. 9. 12. 28. Sept 6. Oct. 2. 14. 31. During erection on board vessel --- Nov. 11. 18. 26. 27. 1913. Jan. 8. 9. 14. 15. Total No. of visits 18.

Is the approved plan of main boiler forwarded herewith —
" " " donkey " " " —

Dates of Examination of principal parts—Cylinders 7. 8. 12 Slides 28. 8. 12 Covers 28. 8. 12 Pistons 6. 9. 12 Rods 9. 8. 12
Connecting rods 9. 8. 12 Crank shaft 9. 8. 12 Thrust shaft 14. 10. 12 Tunnel shafts — Screw shaft 31. 10. 12 Propeller 2. 10. 12
Stern tube 2. 10. 12 Steam pipes tested 9. 1. 13 Engine and boiler seatings 18. 11. 12 Engines holding down bolts 8. 1. 13
Completion of pumping arrangements 14. 1. 13. Boilers fixed 14. 1. 13 Engines tried under steam 15. 1. 13
Main boiler safety valves adjusted 15. 1. 13. Thickness of adjusting washers PV $\frac{5}{16}$ full. SV $\frac{5}{16}$ full
Material of Crank shaft steel Identification Mark on Do. 76 HC Material of Thrust shaft steel Identification Mark on Do. 76 HC
Material of Tunnel shafts none Identification Marks on Do. — Material of Screw shafts steel Identification Marks on Do. 76 HC
Material of Steam Pipes Copper Test pressure 360 lbs $\frac{1}{2}$

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

The machinery of this vessel has been constructed under special survey in accordance with the rules, and has been seen working satisfactorily under steam. Materials and workmanship are good. When the engines were being taken to the wharf for shipment two corners were broken off stool of bed plate on which LP back column sits. This has been repaired as per sketch attached, and letter from owners accepting this repair is enclosed.

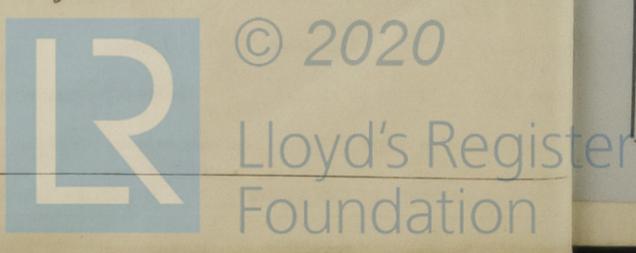
This machinery is eligible in my opinion to be classed +LMC. 1.13

It is submitted that this vessel is eligible for THE RECORD. + LMC 1.13.

JWD.
23/1/13
Harry Clarke
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee	.. £ 2 : 0 :	When applied for,
Special £ 16 : 19 :	20. 1. 13.
Donkey Boiler Fee £ 6 : 9 :	When received,
Travelling Expenses (if any)	£ 10 : 10 :	21. 1. 13.

Committee's Minute **GLASGOW** 21 JAN. 1913
Assigned + LMC 1.13.



Glasgow

Certificate (if required) to be sent to

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

JWA
18/1/13