

REPORT ON MACHINERY.

No. 29833.

Received at London Office

WED. 8 MAR 1911

Date of writing Report 19 When handed in at Local Office 6/3/10 11 Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 20th April 1910 Last Survey 23rd Febry 1911
 Reg. Book. on the Twin Screw S/S "Ellenga" (Number of Visits)
 Master H. P. Leamont Built at Glasgow By whom built Alex Stephen & Son Ltd (440) Tons { Gross 3000
 Engines made at Glasgow By whom made Alex Stephen & Son Ltd (440) when made 1911
 Boilers made at ditto By whom made ditto (440) when made 1911
 Registered Horse Power Owners British India Steam Navigation Co Ltd Port belonging to Glasgow
 Nom. Horse Power as per Section 28 1078 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion (2 Sets) No. of Cylinders 6 No. of Cranks 6
 Dia. of Cylinders (2) 24" (2) 41" (2) 69" Length of Stroke 48" Revs. per minute 90 Dia. of Screw shaft as per rule 13.91 Material of screw shaft S
 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 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 Length of stern bush 5.4"
 Dia. of Tunnel shaft as per rule 13.91 Dia. of Crank shaft journals as per rule 13.65 Dia. of Crank pin 14 1/4" Size of Crank webs 25 1/2 x 9" Dia. of thrust shaft under
 collars 14" Dia. of screw 16.0" Pitch of screw 20.0" No. of Blades 3 State whether moveable Yes Total surface 76.58"
 No. of Feed pumps 2 Diameter of ditto Stroke Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 3 Diameter of ditto 6 x 6" Stroke 6" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 3 Sizes of Pumps 4 1/2, 6, 7 1/2, 2 Donkey 4 x 2 1/2 x 5" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 2 - 3 1/2" Stokehold 2 - 3 1/2" Tunnel 3 x 2 1/2" In Holds, &c. 2 - 3 1/2" in each hold

No. of Bilge Injections 2 sizes 8" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size 2 x 3"
 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
 Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Soli
 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 below
 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
 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 19.12.10 of Stern Tube 19.12.10 Screw shaft and Propeller 19.12.10

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from U.E.R. Platform

BOILERS, &c.—(Letter for record 5) Manufacturers of Steel Colville
 2 Double ended boilers 10930 1/2 Is Forced Draft fitted Yes No. and Description of Boilers 2 Double ended
 Total Heating Surface of Boilers 16668 1/2 Tested by hydraulic pressure to 400 lb Date of test 19.12.10 No. of Certificate 10686.10706
 Working Pressure 200 lb Area of fire grate in each boiler 128.5 1/4 No. and Description of Safety Valves to
 each boiler 3 Direct Spring Area of each valve 11.04 Pressure to which they are adjusted 205 Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean dia. of boilers 15.9" Length 21.0" Material of shell plates S
 Thickness 19/32 Range of tensile strength 28-32 1/2 Are the shell plates welded or flanged S Descrip. of riveting: cir. seams TR
 long. seams TR 10 BS Diameter of rivet holes in long. seams 19/32 Pitch of rivets 10 1/2 Length of plates width of butt straps 22 1/8"
 Per centages of strength of longitudinal joint rivets 88.4 1/2 Working pressure of shell by rules 225 Size of manhole in shell 16 x 12"
 plate 84.8 2/3 No. and Description of Furnaces in each boiler 6 corrugated Material S Outside diameter 4.3"
 Size of compensating ring m'c'c'c' Length of plain part top Thickness of plates crown 11/16 Description of longitudinal joint weld No. of strengthening rings
 bottom Thickness of plates bottom 11/16 Working pressure of furnace by the rules 216 Combustion chamber plates: Material S Thickness: Sides 4 1/4" Back Top 4 1/4" Bottom 1 1/2"
 Pitch of stays to ditto: Sides 4 1/2 x 9" Back Top 9 x 7 1/2 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 214
 Material of stays S Diameter at smallest part 1.99" Area supported by each stay 67.5 1/2 Working pressure by rules 235 End plates in steam space:
 Material S Thickness 3/16 Pitch of stays 6 1/4 x 8 3/8 How are stays secured DN Working pressure by rules 210 Material of stays S
 Diameter at smallest part 6.66 Area supported by each stay 298.5 Working pressure by rules 230 Material of Front plates at bottom S
 Thickness 7/8 Material of Lower back plate S Thickness 7/8 Greatest pitch of stays Working pressure of plate by rules
 Diameter of tubes 2 1/2 Pitch of tubes 37 1/2 x 37 1/2 Material of tube plates S Thickness: Front 7/8 1/2 DP Back 7/8 Mean pitch of stays 4.46"
 Pitch across wide water spaces 14 1/2 Working pressures by rules 215 Girders to Chamber tops: Material S Depth and
 thickness of girder at centre 13 1/2 x 1" (2) Length as per rule 4 1/2 Distance apart 9" Number and pitch of stays in each 6 at 4 1/2"
 Working pressure by rules 217 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

VERTICAL DONKEY BOILER—

Manufacturers of Steel

No.	Description	When made	Where fixed
Made at	By whom made		
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate
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
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates
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 Connecting Rod bolts & nuts for bottom end: ditto for Top end. 2 main bearing bolts. 1 set of coupling bolts. 1 set of Feed & Bilge pump valves. 1 set of Piston Springs. A quantity of assorted bolts & nuts. Iron of various sizes.

The foregoing is a correct description,

Manufacturer.

Wm. Stephen & Sons Ltd.
2nd. M. Almond, Secy.

Dates	During progress of work in shops—	1910. Apr 20. 22. May 5. 11. 18. 24. 30. 31. June 6. 14. 18. July 6. 13. 26. 29. Aug 8. 12
of Survey while building	During erection on board vessel—	18. 24. 31. Sep 14. 21. 30. Oct 6. 13. 17. 25. 27. 31. Nov 8. 10. 15. 22. Dec 1. 2. 12. 19. 27. 29
	Total No. of visits	1911. Jan 9. 18. 19. 20. 24. 26. 31. Feb 3. 6. 14. 23. Mar 3. 5. 12. 19. 26. 27. 28. 29. 30. 31. Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—	Cylinders	31-10-10	Slides	12-12-10	Covers	12-12-10	Pistons	12-12-10	Rods	1-12-10	
Connecting rods	1-12-10	Crank shaft	30.9-10	Thrust shaft	21.9-10	Tunnel shafts	31-10-10	Screw shaft	22-11-10	Propeller	22-11-10
Stern tube	8-11-10	Steam pipes tested	14-11-10	Engine and boiler seatings	12-12-10	Engines holding down bolts	14-2-11	Completion of pumping arrangements	14-2-11	Boilers fixed	6-2-11
Main boiler safety valves adjusted	14-2-11	Thickness of adjusting washers	31. 7/16 2 1/2 3/4 1 1/2 3/4 2 1/4 3/4 3 1/4 3 3/4 2 5/8 1 3/32	Engines tried under steam	3-3-11	Material of Crank shaft	\$	Identification Mark on Do.	4405 WGM	Material of Thrust shaft	\$
Material of Tunnel shafts	\$	Identification Marks on Do.	ditto	Material of Screw shafts	\$	Identification Marks on Do.	ditto	Material of Steam Pipes	Iron	Test pressure	600 lbs

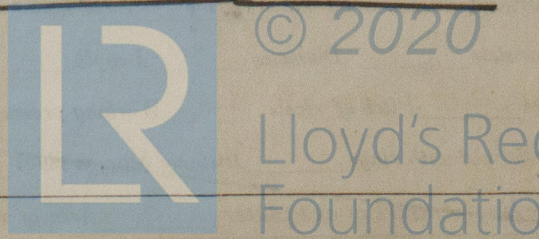
General Remarks (State quality of workmanship, opinions as to class, &c.) These Engines & Boilers have been built under Special Survey in accordance with the approved plan & the workmanship & material are of good quality. They have been securely fitted on board & are eligible in my opinion for the record of LMC 3-11.

It is submitted that
this vessel is eligible for
THE RECORD + LMC 3. 11.
2DB & 2SB. F.D.

The amount of Entry Fee	£ 3 : -	When applied for,	6/3/11
Special	£ 71 : 19	When received,	8.3.11
Donkey Boiler Fee	£ :		
Travelling Expenses (if any)	£ :		

Committee's Minute Glasgow 7 MAR. 1911
Assigned + LMC 3. 11

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



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Letter for rec

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rules 225

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