

REPORT ON MACHINERY.

No. 16123

Received at London Office

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Date of writing Report 25 Oct 1911 When handed in at Local Office 28/10/1911 Port of Greenock

No. in Survey held at Greenock Date, First Survey 14th Sept 1910 Last Survey 24th Oct 1911

Reg. Book. on the SCREW STEAMER "SANTA ROSALIA" (Number of Visits 7)

Master Donnelly Built at Port Glasgow By whom built A. Hamilton & Co. Ltd. When built 1911

Engines made at Greenock By whom made John G. Kincaid & Co. Ltd. when made 1911

Boilers made at Greenock By whom made John G. Kincaid & Co. Ltd. when made 1911

Registered Horse Power Owners Jethman Steamship Coy. Ltd. Port belonging to London

Nom. Horse Power as per Section 28 476 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

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

Dia. of Cylinders 27-44-43 Length of Stroke 48 Revs. per minute 68 Dia. of Screw shaft as per rule 14.8 Material of screw shaft 6 bronze

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 the length of 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' 0"

Dia. of Tunnel shaft as per rule 13.3 Dia. of Crank shaft journals as per rule 14 Dia. of Crank pin 14 Size of Crank webs 9x21 Dia. of thrust shaft under collars 14 Dia. of screw 18.0 Pitch of Screw 14.9 No. of Blades 4 State whether moveable No Total surface 104 sq. ft.

No. of Feed pumps 2 Diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work Yes WEIR'S FEED PUMPS.

No. of Bilge pumps 2 Diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work Yes 2 9 1/2 x 4 x 24.

No. of Donkey Engines 3 Sizes of Pumps 9.12x10 8.5x8 5.5x5.5 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Four 3 1/2" dia In Holds, &c. No. 1 HOLD Two 3 1/2" dia No. 2 HOLD Two 3 1/2" dia

No. 3 HOLD (DEEP TANK) Two 3 1/2" dia + Two 6" dia No. 4 HOLD Two 3 1/2" dia TUNNEL WELL One 2 1/2" dia

No. of Bilge Injections 1 sizes 6 1/2 Connected to condenser, or to circulating pump C. P. 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

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 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 19/9/11 of Stern Tube 19/9/11 Screw shaft and Propeller 19/9/11

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

BOILERS, &c.—(Letter for record S) Manufacturers of Steel A. Colucci & Sons

Total Heating Surface of Boilers 6694 sq. ft. Is Forced Draft fitted Yes No. and Description of Boilers 2: Cylindrical built Single

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 4/6/11 No. of Certificate 1010

Can each boiler be worked separately Yes Area of fire grate in each boiler 48 sq. ft. No. and Description of Safety Valves to each boiler 2: Direct Spring Area of each valve 12.56 sq. in. 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 about 9' Mean dia. of boilers 16' 10 1/2 Length 12' 0" Material of shell plates Steel

Thickness 1 3/8 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 Straps Diameter of rivet holes in long. seams 1 7/16 Pitch of rivets 9 1/4 4 3/4 Lap of plates or width of butt straps 20 7/8

Per centages of strength of longitudinal joint rivets 87.5 plate 85.5 Working pressure of shell by rules 184 lbs Size of manhole in shell 16" x 12"

Size of compensating ring Flanged Ring No. and Description of Furnaces in each boiler 4: Doughtoni Material Steel Outside diameter 3' 9 1/2"

Length of plain part top 4 1/2 bottom 4 1/2 Thickness of plates crown 1 1/2 bottom 1 1/2 Description of longitudinal joint Weld No. of strengthening rings None

Working pressure of furnace by the rules 181 lbs Combustion chamber plates: Material Steel Thickness: Sides 5 1/8 Back 5 Top 5 Bottom 1 1/2"

Pitch of stays to ditto: Sides 8' x 8 1/2 Back 8 1/2 x 8 1/2 Top 9' x 8' If stays are fitted with nuts or riveted heads nuts Working pressure by rules 181 lbs

Material of stays Steel Diameter at smallest part 1 1/2 Area supported by each stay 74 sq. in. Working pressure by rules 154 lbs End plates in steam space:

Material Steel Thickness 1 1/8 Pitch of stays 19' x 16 1/2 How are stays secured 8 lbs nuts Working pressure by rules 186 lbs Material of stays Steel

Diameter at smallest part 2 3/4 Area supported by each stay 318 sq. in. Working pressure by rules 189 lbs Material of Front plates at bottom Steel

Thickness 5/8 Material of Lower back plate Steel Thickness 2 5/8 Greatest pitch of stays 12 1/8 Working pressure of plate by rules 191 lbs

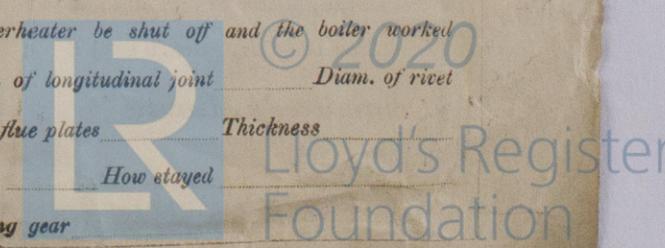
Diameter of tubes 2 1/2 Pitch of tubes 3 5/8 x 3 3/4 Material of tube plates Steel Thickness: Front 5/8 Back 3/4 Mean pitch of stays 9 1/2"

Pitch across wide water spaces 12 Working pressures by rules 180 lbs 228 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 8 1/2 x 1 1/4 Length as per rule 32.6 Distance apart 9 Number and pitch of stays in each 3: 8"

Working pressure by rules 191 lbs 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

W529-0028



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	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:— 1 C. I. Propeller & shaft, 3 cylinder escape valves, springs & set safety valves, 12 shaft coupling Bolts, 2 Conn. Rod (both end) Bolts, 2 Conn. Rod top end Bolts, 2 main Bearing Bolts, 6 Holding Bolts, 6 Jack Ring Bolts, 12 cylinder cover Bolts, 2 Feed Pump valves, 2 Bilge pump valves, 1 Feed escape valve & pump, 12 Boiler tubes, 12 Condenser tubes & 120 ferrules, 1 set air pump valves, 1 set circulating pump valves, 2 set of

The foregoing is a correct description, metal, 1 set crank pin Bushes, 2 set Bars, 3 set Plates, Iron, Bolt & nuts.

John G. Kincaid & Co Ltd Manufacturer.

Dates of Survey while building	During progress of work in shops - -	1910. Sept. 14, 21, 27, 30. Oct. 3, 7, 12, 14, 17, 20, 24, 26, 28. Nov. 1, 4, 7, 11, 15, 22, 26, 27. Dec. 1, 6, 8, 12, 17, 18.
	During erection on board vessel - - -	1911. Jan. 9, 12, 18, 20, 27, 31. Feb. 2, 8, 14, 15, 20, 22. Mar. 1, 6, 9, 10, 15, 28. Apr. 5, 5, 7, 14. May 4.
	Total No. of visits	79

Is the approved plan of main boiler forwarded herewith Yes.

" " " donkey " " " Yes.

Dates of Examination of principal parts—Cylinders 22/12/10. Slides 22/12/10. Covers 24/10/11. Pistons 22/2/11. Rods 22/2/11.

Connecting rods 11/10. Crank shaft 14/10. Thrust shaft 5/4/11. Tunnel shafts 22/3/11. Screw shaft 22/8/11. Propeller 1/6/11.

Stern tube 9/5/11. Steam pipes tested 25/9/11. Engine and boiler seatings 2/10/11. Engines holding down bolts 2/10/11.

Completion of pumping arrangements 2/10/11. Boilers fixed 2/10/11. Engines tried under steam 24/10/11.

Main boiler safety valves adjusted 18/10/11. Thickness of adjusting washers Start: Boiler. Port Boiler. Donkey Boiler. 5/16 PL 132. 5/16 PL 132. 5/16 PL 132.

Material of Crank shaft Steel. Identification Mark on Do. 1718. Material of Thrust shaft Steel. Identification Mark on Do. 1725.

Material of Tunnel shafts Steel. Identification Marks on Do. 1736, 1758-9. Material of Screw shafts Steel. Identification Marks on Do. 297.

Material of Steam Pipes Copper 5 1/2 dia x 4 1/2. Test pressure 400 lbs.

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

The engines and boilers of this vessel were built under special survey and the materials and workmanship are good. On completion they were examined while running full power trials and found to work well.

The machinery throughout is now in good and efficient condition and eligible in my opinion to have the record of **LMC 10, 11** marked in the Society's Register Book.

Greenock

Certificate (if required) to be sent to

It is submitted that this vessel is eligible for THE RECORD. **LMC 10, 11**

F.D.

The amount of Entry Fee .. £	3	When applied for,	28/10/1911
Special .. £	43	When received,	3/11/1911
Donkey Boiler Fee .. £			
Travelling Expenses (if any) £			

Committee's Minute **GLASGOW 31 OCT 1911**

Assigned + LMC 10, 11

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

