

Rpt. 4.

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 Connolly 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 as fitted 15 Material of screw shaft 6 long

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 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 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 as fitted 13 Dia. of Crank shaft journals as per rule 14 as fitted 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. 2 9 3/4 x 4 x 24

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 3 Sizes of Pumps 9.5 x 10 8.5 x 8 5.5 x 5.5 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 TUNNEL WELL One 2 1/2" dia

No. 3 HOLD (DEEP TANK) Two 3 1/2" dia + Two 6" dia No. 4 HOLD Two 3 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. Connell & 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 38 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 1/16 Pitch of rivets 9 1/4 4 1/2 Lap of plates or width of butt straps 20 7/8

Per centages of strength of longitudinal joint rivets 84.5 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: Doughtons Material Steel Outside diameter 3' 9 1/2

Length of plain part top 4' 11" bottom 4' 11" Thickness of plates crown 1 1/4 bottom 1 1/4 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 5/8 Back 5/8 Top 5/8 Bottom 1 1/8

Pitch of stays to ditto: Sides 8' x 8 1/2 Back 8 1/4 x 8 1/2 Top 9' x 8' If stays are fitted with nuts or riveted heads Yes 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 184 lbs End plates in steam space:

Material Steel Thickness 1 1/8 Pitch of stays 19' 16 1/2 How are stays secured 20 lbs washers 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 1/4 Material of tube plates Steel Thickness: Front 5/8 Back 5/8 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 33.6 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

WS29-0028

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 _____ 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:— 1 C. I. Propeller & Shaft, 3 Cylinders escape valve springs, 1 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 Balgum 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,

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, 15, 18.
During erection on board vessel - - -	20, 22, 23, 27, 30. 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	15. June 1, 7, 21. July 3, 25. Aug. 10, 16, 21, 22, 25. Sept. 13, 25, 28. Oct. 2, 4, 6, 10, 11, 16, 18, 24.

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. Bowing Bolt. 5 1/2 x 1 1/2. 5 1/2 x 1 1/2. 5 1/2 x 1 1/2.

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, 1761, 2-3. Material of Screw shafts Steel Identification Marks on Do. 2978.

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 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.

It is submitted that this vessel is eligible for THE RECORD.

F.D.

The amount of Entry Fee .. £ 3 : : : When applied for, 28/10/11.

Special .. £ 43 : 16 : : When received, 3/11/11.

Donkey Boiler Fee .. £ : : : 1911.

Travelling Expenses (if any) £ : : : 1911.

Committee's Minute

Assigned

+ LMC 10, 11

GLASGOW 31 OCT 1911

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

Lloyd's Register Foundation