

REPORT ON MACHINERY.

No. 17983
WED. APR. 19 1922

Received at London Office

Date of writing Report March 1922 When handed in at Local Office 13/4/22 Port of Greenock

No. in Survey held at Greenock S.S. Glasgow Date, First Survey 13th January, 1921 Last Survey 12th April, 1922.
Reg. Book. on the Wood Steamer Santa Maria (Number of Visits 143)

Master Built at S.S. Glasgow By whom built A. Duncan & Co. Tons { Gross 8430
Net 4835
When built 1922

Engines made at Greenock By whom made John S. Kincaid & Co. Ltd. when made 1922

Boilers made at Greenock By whom made John S. Kincaid & Co. Ltd. when made 1922

Registered Horse Power Owners: The Santa Maria O.G. Co. Ltd. Port belonging to London
Nom. Horse Power as per Section 28 701 ✓ Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

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

Dia. of Cylinders 20" - 47 1/2" - 80" Length of Stroke 54" Revs. per minute 75 Dia. of Screw shaft as per rule 16.01 ✓ Material of Steel
as fitted 16 1/2" 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 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 No If two liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 66" ✓

Dia. of Tunnel shaft as per rule 14.87 ✓ as fitted 16" Dia. of Crank shaft journals as per rule 15.61 ✓ as fitted 16" Dia. of Crank pin 16" Size of Crank webs 24" x 10 1/2" Dia. of thrust shaft under collars 16" Dia. of screw 18" x 6" Pitch of Screw 18:0 No. of Blades 4 State whether moveable Yes Total surface 108 sq ft

No. of Feed pumps Two Diameter of ditto 4 1/2" Stroke 28" Can one be overhauled while the other is at work Yes

No. of Bilge pumps Two Diameter of ditto 4 1/2" Stroke 28" Can one be overhauled while the other is at work Yes

No. of Donkey Engines Three ✓ Sizes of Pumps 9 1/2" x 12" - 6" x 10" - 6" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Three 3 1/2" Three Oil Well 3 1/2" In Holds, &c. Set of cum Suctions

No. of Bilge Injections two sizes 10" Connected to condenser, or to circulating pump Yes 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 No

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 None

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

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door No worked from Engine Room ✓

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Steel Plate Open Cast Iron

Total Heating Surface of Boilers 10326 sq ft Is Forced Draft fitted Yes No. and Description of Boilers 4 Single Ended ✓

Working Pressure 200 lb Tested by hydraulic pressure to 350 lb Date of test 21/9/21 No. of Certificate 1583

Can each boiler be worked separately Yes Area of fire grate in each boiler Oil fired ✓ No. and Description of Safety Valves to each boiler Two Opening Area of each valve 9.62 sq ft Pressure to which they are adjusted 205 lb Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 24" Mean dia. of boilers 15'0" Length 12'0" Material of shell plates Steel

Thickness 1 1/2" Range of tensile strength 28 - 32 Are the shell plates welded or flanged Yes Descrip. of riveting: End long. seams all lap, all Diameter of rivet holes in long. seams 3/8" 16/16" Pitch of rivets 9 1/8" Lap of plates or width of butt straps 20 1/4" ✓

Per centages of strength of longitudinal joint rivets 88.4 plate 85.7 Working pressure of shell by rules 200 lb Size of manhole in shell 16" x 12" ✓

Size of compensating ring flanged 1 1/2" No. and Description of Furnaces in each boiler Digimon ✓ Material Steel Outside diameter 44 1/4"

Length of plain part top 10 1/2" bottom 10 1/2" Thickness of plates crown 10/16" bottom 10/16" Description of longitudinal joint welded No. of strengthening rings Cony

Working pressure of furnace by the rules 206 lb Combustion chamber plates: Material Steel Thickness: Sides 4 3/16" Back 10 1/8" 2 1/2" Top 4 3/16" Bottom 1 1/2"

Pitch of stays to ditto: Sides 9' 8 1/2" Back 9' 8 1/2" Top 9' 8 1/2" If stays are fitted with nuts or riveted heads Yes ✓ Working pressure by rules 200 lb

Material of stays Steel Diam Area at smallest part 198" Area supported by each stay 73" Working pressure by rules 207 lb End plates in steam space: Material Steel Thickness 1 1/2" Pitch of stays 20 1/2" How are stays secured all nuts ✓ Working pressure by rules 211 lb Material of stays Steel

Area at smallest part 34" Area supported by each stay 420" Working pressure by rules 262 lb Material of Front plates at bottom Steel

Thickness 3 1/2" Material of Lower back plate Steel Thickness 5 7/16" Greatest pitch of stays 13 7/8" Working pressure of plate by rules 257 lb

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

Pitch across wide water spaces 13 1/4" Working pressures by rules 202 lb Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 10 3/8" x 1 1/4" Length as per rule 34 65" Distance apart 9" Number and pitch of stays in each Three 8 1/4" ✓

Working pressure by rules 271 lb Steam dome: description of joint to shell None % of strength of joint None

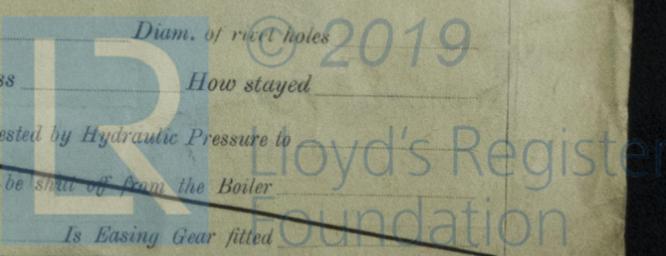
Diameter None Thickness of shell plates None Material None Description of longitudinal joint None Diam. of rivet holes None

Pitch of rivets None Working pressure of shell by rules None Crown plates None Thickness None How stayed None

UPERHEATER. Type None Date of Approval of Plan None Tested by Hydraulic Pressure to None

Date of Test None Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler None

Diameter of Safety Valve None Pressure to which each is adjusted None Is Easing Gear fitted None



IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded? *Yes*

SPARE GEAR. State the articles supplied:— *Two top end bolts, Ten bottom end bolts, Four main bearing bolts, One set coupling bolts, One set dead pump valves, One set bridge pump valves, One set check valves, One bronze propeller blade, One blade clutch nut, One propeller shaft, One escape valve spring each side, Four safety valve springs, One pair crank pin bushes, 2 Eccentric sheaves, Eccentric shaft, Valve spindle, Air pump Rod, Bolts nuts &c.*

The foregoing is a correct description,
FOR JOHN G. KINCAID & COY., LIMITED.

Robert Green

Secretary

Manufacturer.

Dates of Survey while building: (1921) Jan 13-18-21-25-26-28-31 Feb 1-3-4-8-10-14-16-18-23-25 Mar 1-3-4-7-9-11-15-18-22-30-31 Apr 5-7-8-12-15-18-20-22-26-29 May 2-4-6-11-13-19-24-29-26-27-30 June 2-6-7-8-9-13-14-15-16-21-22-24-27-29 July 16-18-21-25-29 Aug 2-3-9-12-16-17-18-23 29 Sept 5-8-9-13-16-21-22-25-28-30 Oct 4-5-7-12-14-17-18-21-25-28 Nov 1-8-17-23-25 Dec 2-7-9-13-15-20-22-23-26-27 (1922) Jan 10-17-18-20-24-25-30 Feb 1-2-3-6-7-9-10-13-14-16-17-20-23-24-28 Mar 3-8-14-16-23-25-29-30 Apr 12

Total No. of visits *143*

Is the approved plan of main boiler forwarded herewith *Yes*

Is the approved plan of donkey boiler forwarded herewith *No*

Dates of Examination of principal parts—Cylinders *24/6/21* Slides *28/9/21* Covers *24/6/21* Pistons *28/9/21* Rods *28/9/21*

Connecting rods *6/5/21* Crank shaft *11/5/21* Thrust shaft *11/5/21* Tunnel shafts *19/5/21* Screw shaft *28/9/21* Propeller *25/11/21*

Stern tube *8/11/21* Steam pipes tested *3/2/22* Engine and boiler seatings *26/12/21* Engines holding down bolts *17/2/22*

Completion of pumping arrangements *13/2/22* Boilers fixed *17/2/22* Engines tried under steam *29/3/22*

Completion of fitting sea connections *26/12/21* Stern tube *26/12/21* Screw shaft and propeller *26/12/21*

Main boiler safety valves adjusted *14/3/22* Thickness of adjusting washers *9/2 5 7/16 - 7 1/16 - 5 27/32 - 7 1/32 5 11/32 - 7 23/32 5 1/2*

Material of Crank shaft *Steel* Identification Mark on Do. *617* Material of Thrust shaft *Steel* Identification Mark on Do. *617*

Material of Tunnel shafts *Steel* Identification Marks on Do. *617* Material of Screw shafts *Steel* Identification Marks on Do. *617*

Material of Steam Pipes *Main steel and copper* Test pressure *600 lb - 1400 lb*

Is an installation fitted for burning oil fuel *Yes* Is the flash point of the oil to be used over 150°F. *Yes*

Have the requirements of Section 49 of the Rules been complied with *Yes*

Is this machinery duplicate of a previous case *No* If so, state name of vessel *—*

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

The machinery and boilers of this steamer have been constructed under special survey, and placed on board in accordance with the Society's Rules. They are now in my opinion in safe working condition, and the case is respectfully submitted for the notification. + L.M.C. 4. 22. Fitted for oil fuel 4. 22. F.P. above 150° in the Register Book.

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

L.M.C. - 4. 22. F.D. C.L.

Fitted for Oil Fuel, 4. 22., F.P. above 150° F.

The amount of Entry Fee ... £ *6 : 0* :
Special ... £ *110 : 1* :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :

When applied for, *29/3/1922*
When received, *13/4/1922*

James James
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *GLASGOW*

18 APR 1922

MACHINERY CERTIFICATE WRITTEN 26/4/22 (dated 19/4/22)

Assigned *+ L.M.C. 4. 22 F.D.*

Fitted for oil fuel 4. 22 F.P. above 150° F.

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GREENOCK

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