

## REPORT ON MACHINERY.

No. 17983  
WED. APR. 19 1922

Received at London Office

Diameter  
Inches

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 13<sup>th</sup> January, 1921 Last Survey 12<sup>th</sup> 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 1922Engines made at Greenock By whom made John S. Kincaid & Co. Ltd. when made 1922Boilers made at Greenock By whom made John S. Kincaid & Co. Ltd. when made 1922Registered Horse Power Owners The Santa Maria C. C. Ltd. Port belonging to LondonNom. Horse Power as per Section 28 701 ✓ Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted YesENGINES, &c.—Description of Engines Triple Compound No. of Cylinders Three No. of Cranks ThreeDia. of Cylinders 28" 47 1/2" 80" Length of Stroke 54" Revs. per minute 75 Dia. of Screw shaft 16.01 as per rule 16.01 Material of Steel  
as fitted 16 1/2" screw shaftIs 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 tightin 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 partbetween the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes If twoliners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 66" ✓Dia. of Tunnel shaft 14.87 as per rule 15.61 Dia. of Crank shaft journals 16" as fitted 16" Dia. of Crank pin 16" Size of Crank webs 24" x 10 1/2" Dia. of thrust shaft undercollars 16" Dia. of screw 18.6" Pitch of Screw 18:0 No. of Blades 4 State whether moveable Yes Total surface 108 sq ftNo. of Feed pumps Two Diameter of ditto 4 1/2" Stroke 28" Can one be overhauled while the other is at work YesNo. of Bilge pumps Two Diameter of ditto 4 1/2" Stroke 28" Can one be overhauled while the other is at work YesNo. of Donkey Engines Five 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 pumpsIn Engine Room Three 3 1/2" Three oil well 3 1/2" In Holds, &c. Set of cum tanksCirculating Pump Refrigerator EngineNo. of Bilge Injections Five sizes 10" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size 7 1/2" x 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 YesAre all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks BothAre 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 BelowAre 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 YesWhat pipes are carried through the bunkers Yes How are they protected YesAre all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times YesAre the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges YesIs the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Engine RoomBOILERS, &c.—(Letter for record S) Manufacturers of Steel Scott's Patent OpennessTotal Heating Surface of Boilers 10326 sq ft Is Forced Draft fitted Yes No. and Description of Boilers 4 Single EndedWorking Pressure 200 lb Tested by hydraulic pressure to 350 lb Date of test 21/9/21 No. of Certificate 1583Can each boiler be worked separately Yes Area of fire grate in each boiler Oil fired No. and Description of Safety Valves toeach 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 YesSmallest distance between boilers or uptakes and bunkers or woodwork 24" Mean dia. of boilers 15' 0" Length 12' 0" Material of shell plates SteelThickness 1 1/2" Range of tensile strength 28" 32" Are the shell plates welded or flanged Yes Descrip. of riveting: Seams all weldlong. seams all lap Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 9 1/2" Lap of plates or width of butt straps 20 1/4"Per centages of strength of longitudinal joint rivets 88.4 plate 88.7 Working pressure of shell by rules 200 lb Size of manhole in shell 16" x 12"Size of compensating ring 1 1/2" No. and Description of Furnaces in each boiler Diagonal Material Steel Outside diameter 44 1/4"Length of plain part 10' 1/2" Thickness of plates 10 1/2" Description of longitudinal joint Welded No. of strengthening rings ConyWorking pressure of furnace by the rules 206 lb Combustion chamber plates: Material Steel Thickness: Sides 43/64" Back 10 1/8" 2 1/2" Top 43/64" Bottom 14/16"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 lbMaterial of stays Steel Area at smallest part 1 1/2" Area supported by each stay 73 sq ft Working pressure by rules 207 lb End plates in steam space:Material Steel Thickness 1 1/4" Pitch of stays 20 1/2" How are stays secured all nut Working pressure by rules 211 lb Material of stays SteelArea at smallest part 3 1/4" Area supported by each stay 420 sq ft Working pressure by rules 262 lb Material of Front plates at bottom SteelThickness 3 1/2" Material of Lower back plate Steel Thickness 57/64" Greatest pitch of stays 13 3/8" Working pressure of plate by rules 257 lbDiameter of tubes 2 1/2" Pitch of tubes 3 1/4" Material of tube plates Steel Thickness: Front 5 1/2" Back 23/32" 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 andthickness of girder at centre 10 1/2" 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 Yes % of strength of joint YesDiameter 10" Thickness of shell plates 10" Material Steel Description of longitudinal joint Welded Diam. of rivet holes 1 1/4"Pitch of rivets 9 1/2" Working pressure of shell by rules 200 lb Crown plates Yes Thickness 1 1/2" How stayed YesSUPERHEATER. Type Horizontal Date of Approval of Plan 21/9/21 Tested by Hydraulic Pressure to 200 lbDate of Test 21/9/21 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler YesDiameter of Safety Valve 1 1/2" Pressure to which each is adjusted 200 lb Is Easing Gear fitted Yes



IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded?

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

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

*Robert Green*

Secretary

Manufacturer.

Dates of Survey while building  
During progress of work in shops -- (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.  
During erection on board vessel -- 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 14. 18. 21. 25. 29. Aug. 2. 3. 9. 12. 16. 17. 18. 23.  
Total No. of visits (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.

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

" " " donkey " " " *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 *1/3/22* 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 *2 9/16 5 5/16 - 2 9/16 5 5/16 - 2 9/16 5 5/16*

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 - 400 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 Jones*

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW

18 APR 1922

MACHINERY CERTIFICATE  
WRITTEN

26/4/22  
Calculated 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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Foundation