

REPORT ON MACHINERY.

No. 17377.

Received at London Office

Date of writing Report 28/10/18 19 When handed in at Local Office 2 Nov 1918 Port of GreenockNo. in Survey held at Greenock & St. Helens Date, First Survey 20th December, 1917, Last Survey 31st Decem 1918
Reg. Book. on the Steel Steamer "Virgilia" (Number of Visits 61.)Master S. Wilson Built at San Hangan By whom built Russell & Co. Tons { Gross 5694.05.
Net 3619.35.
When built 1918Engines made at Greenock By whom made John S. Kincaid & Co. Ltd. when made 1918Boilers made at Greenock By whom made John S. Kincaid & Co. Ltd. when made 1918Registered Horse Power Owners The Virgilia Steamship Co., Ltd. Port belonging to StangonNom. Horse Power as per Section 28 550 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted NoENGINES, &c.—Description of Engines Triple Compound No. of Cylinders Three No. of Cranks ThreeDia. of Cylinders 27"-44"-73" Length of Stroke 48" Revs. per minute 75 Dia. of Screw shaft 14.87" Material of Steel
as per rule 15.33 as fitted 15 screw shaft)Is the screw shaft fitted with a continuous liner the whole length of the stern tube No Is the after end of the liner made water tightin the propeller boss No If the liner is in more than one length are the joints burned No 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 No If twoliners are fitted, is the shaft lapped or protected between the liners No Length of stern bush 60"Dia. of Tunnel shaft 15.33" as per rule 15.33 as fitted 15.41 Dia. of Crank shaft journals 15.99" as per rule 15.99 as fitted 16 Dia. of Crank pin 14" Size of Crank webs 21"-9" Dia. of thrust shaft undercollars 14" Dia. of screw 18.0" Pitch of Screw 17.0" No. of Blades 4 State whether moveable No Total surface 107 sq ftNo. of Feed pumps Two Diameter of ditto 4" Stroke 27" Can one be overhauled while the other is at work NoNo. of Bilge pumps Two Diameter of ditto 4" Stroke 27" Can one be overhauled while the other is at work NoNo. of Donkey Engines Three Sizes of Pumps 11"-10"-5.8"-6.8" No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room Three 3 1/2" In Holds, &c. Light 3 1/2" Summit 3"Circulating Pump Separate Engine.No. of Bilge Injections One sizes 9" Connected to condenser, or to circulating pump Summit Is a separate Donkey Suction fitted in Engine room & size 9 1/2"Are all the bilge suction pipes fitted with roses No Are the roses in Engine room always accessible No Are the sluices on Engine room bulkheads always accessible NoAre all connections with the sea direct on the skin of the ship No Are they Valves or Cocks BothAre they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates No 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 No Are the Blow Off Cocks fitted with a spigot and brass covering plate NoWhat pipes are carried through the bunkers No How are they protected NoAre all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times NoAre the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges NoIs the Screw Shaft Tunnel watertight No Is it fitted with a watertight door No worked from 1st PlatformBOILERS, &c.—(Letter for record S) Manufacturers of Steel White Iron, Spencer & Co.Total Heating Surface of Boilers 8428 sq ft Is Forced Draft fitted No No. and Description of Boilers Three single endedWorking Pressure 180 lb Tested by hydraulic pressure to 360 lb Date of test 7/9/18 No. of Certificate 1560Can each boiler be worked separately No Area of fire grate in each boiler 634 sq ft No. and Description of Safety Valves toeach boiler Two Spring Area of each valve 9.62" Pressure to which they are adjusted 185 lb Are they fitted with easing gear NoSmallest distance between boilers or uptakes and bunkers or woodwork 24" Mean dia. of boilers 15.9" Length 12.0" Material of shell plates SteelThickness 1 1/4" Range of tensile strength 28-32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Nolong. seams all this side Diameter of rivet holes in long. seams 15/16" Pitch of rivets 9 7/16" Lap of plates or width of butt straps 19 1/2"Per centages of strength of longitudinal joint 86.44% Working pressure of shell by rules 180 lb Size of manhole in shell 16 1/2"Size of compensating ring Hanged 1 1/2" No. and Description of Furnaces in each boiler 3 Bright iron Material Steel Outside diameter 50 1/2"Length of plain part top 19 1/2" Thickness of plates bottom 19 1/2" Description of longitudinal joint butted No. of strengthening rings NoneWorking pressure of furnace by the rules 180 lb Combustion chamber plates: Material Steel Thickness: Sides 10 1/16" Back 19 1/2" Top 10 1/16" Bottom 14 1/16"Pitch of stays to ditto: Sides 9 1/2" Back 5 7/16" Top 9 1/2" If stays are fitted with nuts or riveted heads Both Working pressure by rules 181 lbMaterial of stays Steel Area at smallest part 1.79" Area supported by each stay 74" Working pressure by rules 217 lb End plates in steam space:Material Steel Thickness 1 9/16" Pitch of stays 21-30 1/2" How are stays secured both ends Working pressure by rules 180 lb Material of stays SteelArea at smallest part 7.50" Area supported by each stay 432" Working pressure by rules 181 lb Material of Front plates at bottom SteelThickness 1 5/16" Material of Lower back plate Steel Thickness 1 3/16" Greatest pitch of stays 13 1/16" Working pressure of plate by rules 182 lbDiameter of tubes 2 1/2" Pitch of tubes 5 1/4" Material of tube plates Steel Thickness: Front 15 1/16" Back 14 1/16" Mean pitch of stays 9 1/4"Pitch across wide water spaces 13" Working pressures by rules 186 lb Girders to Chamber tops: Material Steel Depth andthickness of girder at centre 10 1/4"-1 1/2" Length as per rule 57.6" Distance apart 9 1/2" Number and pitch of stays in each Three 5 1/2"Working pressure by rules 183 lb Steam dome: description of joint to shell No % of strength of jointDiameter 18" Thickness of shell plates 1 1/2" Material Steel Description of longitudinal joint butted Diam. of rivet holes 15/16"Pitch of rivets 9 7/16" Working pressure of shell by rules 180 lb Crown plates 19 1/2" Thickness 1 1/2" How stayed NoneSUPERHEATER. Type Horizontal Date of Approval of Plan 7/9/18 Tested by Hydraulic Pressure to 180 lbDate of Test 7/9/18 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler NoDiameter of Safety Valve 1 1/2" Pressure to which each is adjusted 180 lb Is Easing Gear fitted No

Kincaid & Co. Ltd.

W1156-0176

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IS A DONKEY BOILER FITTED? *None*

If so, is a report now forwarded? -

SPARE GEAR. State the articles supplied: - *The top end bolts. The bottom end bolts. The main bearing bolts. 12 coupling bolts. One set feed pump valves. One set safety pump valves. One set check valves. One set escape valve spring. Three safety valve springs. Bolt nuts etc. Supplied.*

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 - - (1917) Dec. 20 (1918) Jan. 9-24 Feb. 14-22 Apr. 5-14 23-26 May 1-27 17-27 June 3-4-5-7-10-11-12-14-18-20-21-25-28 July 1-7.
During erection on board vessel - - 19-22-24-25-27-30-31 Aug. 1-2-6-19-23-28 Sep. 3-5-10-11-13-16-19-23-25-26-27 Oct. 3-8-9-11-14-17-18-25-31 -
Total No. of visits *61.*

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

" " " donkey " " " "

Dates of Examination of principal parts—Cylinders *29/8/18* Slides *25/9/18* Covers *29/8/18* Pistons *14/10/18* Rods *5/9/18*
Connecting rods *29/8/18* Crank shaft *5/9/18* Thrust shaft *5/9/18* Tunnel shafts *5/9/18* Screw shaft *2/8/18* Propeller *5/7/18*
Stern tube *19/10/18* Steam pipes tested *8-9/10/18* Engine and boiler seatings *14/9/18* Engines holding down bolts *10/10/18*
Completion of pumping arrangements *10/10/18* Boilers fixed *11/10/18* Engines tried under steam *18/10/18*
Completion of fitting sea connections *16/9/18* Stern tube *14/9/18* Screw shaft and propeller *14/9/18*
Main boiler safety valves adjusted *18/10/18* Thickness of adjusting washers *1 1/2" 5 1/2" - 2 3/4" 5 1/2" - 2 9/16" 5 1/2"*
Material of Crank shaft *Steel* Identification Mark on Do. *1595* Material of Thrust shaft *Steel* Identification Mark on Do. *4799*
Material of Tunnel shafts *Steel* Identification Marks on Do. *2507* Material of Screw shafts *Steel* Identification Marks on Do. *1595*
Material of Steam Pipes *Steel* Test pressure *600 lb.*

Is an installation fitted for burning oil fuel *Yes*

Is the flash point of the oil to be used over 150°F. -

Have the requirements of Section 49 of the Rules been complied with -

Is this machinery duplicate of a previous case - If so, state name of vessel -

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

This vessel is fitted to carry oil fuel alone 150' in the deep tank and double bottom. The requirements have been complied with.

The Machinery and Boilers of this vessel 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 Anticipation + LMC 10. 18. F.D. and fitted to carry oil fuel alone 150' in deep tank and double bottom. in the Register Book.

*It is submitted that
this vessel is eligible for
THE RECORD. + LMC 10, 18 F.D.*

The amount of Entry Fee ... £ *1* : *0* :
Special ... £ *47* : *10* :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, *2nd Nov. 1918.*
When received, *9-11-19*

Committee's Minute **GLASGOW** **5 NOV 1918**

Assigned + LMC 10, 18

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

MACHINERY CERTIFICATE
WRITTEN



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