

# REPORT ON MACHINERY.

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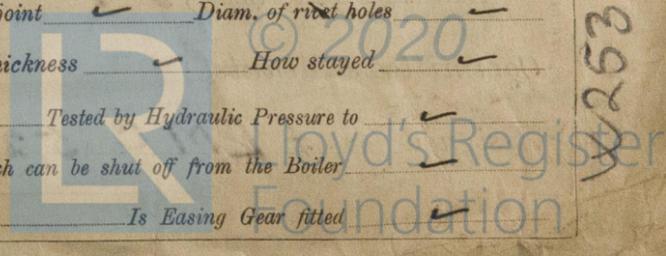
Date of writing Report 25<sup>th</sup> May 1921 When handed in at Local Office 30.5.1921 Port of Glasgow  
 No. in Survey held at Paisley Date, First Survey 28th June 1920 Last Survey 23rd May 1921  
 Reg. Book. on the S.S. "Maria Kyriakides" (Number of Visits 31)  
 Master P. B. Goulondris Built at Paisley By whom built Messrs. Bow, MacLellan & Co. Ltd. (No. 389) Tons Gross 1556 Net 858  
 Engines made at Paisley By whom made Messrs. Bow, MacLellan & Co. Ltd. (No. 3791) when made 1921-5  
 Boilers made at ditto By whom made do. do. (Nos. 1099+1100) when made 1921  
 Registered Horse Power \_\_\_\_\_ Owners Nicolas George Kyriakides Port belonging to Andros  
 Nom. Horse Power as per Section 28 170 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes

**ENGINES, &c.**—Description of Engines Inverted Triple Expansion No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 17, 27 & 45" Length of Stroke 33" Revs. per minute 118 Dia. of Screw shaft 9.25" Material of Steel  
 as fitted 9.25" 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 ✓ 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 yes ✓ If two  
 liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 3-1/2"  
 Dia. of Tunnel shaft 8.625" as per rule 8.625" Dia. of Crank shaft journals 9" as per rule 9" Dia. of Crank pin 9" Size of Crank webs 6"x1-4/8" Dia. of thrust shaft under  
 collars 9" Dia. of screw 10'-6" Pitch of Screw 10'-9" No. of Blades 4 State whether moveable No Total surface 4.2 ft<sup>2</sup>  
 No. of Feed pumps 2 Diameter of ditto 3" Stroke 18" Can one be overhauled while the other is at work yes  
 No. of Bilge pumps 2 Diameter of ditto 3" Stroke 18" Can one be overhauled while the other is at work yes  
 No. of Donkey Engines 3 Sizes of Pumps (Bore x Stroke) 6x6, 9x8, 6x6 No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room 3 @ 2 1/2 ins. diameter In Holds, &c. 2 in each hold @ 2 1/2 in.  
 No. of Bilge Injections 1 sizes 4" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size yes: 3"  
 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  
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Engine Room Top grating

**BOILERS, &c.**—(Letter for record (5)) Manufacturers of Steel The Glasgow Iron & Steel Coy. Ltd.  
 Total Heating Surface of Boilers 3217 ft<sup>2</sup> Is Forced Draft fitted No No. and Description of Boilers Two Single-Ended (Main)  
 Working Pressure 180 lb./in<sup>2</sup> Tested by hydraulic pressure to 360 lb. Date of test 18/11/20 No. of Certificate 15593  
 Can each boiler be worked separately yes Area of fire grate in each boiler 4.5 ft<sup>2</sup> No. and Description of Safety Valves to  
 each boiler 2 Spring Loaded Area of each valve 7.07 in<sup>2</sup> Pressure to which they are adjusted 185 lb./in<sup>2</sup> Are they fitted with easing gear yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork Well clear Mean dia. of boilers 12'-6" Length 10'-6" Material of shell plates Steel  
 Thickness 1/32" Range of tensile strength 28/32 tons/in<sup>2</sup> Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R. Lap  
 long. seams Y.R.D.B.S. Diameter of rivet holes in long. seams 1/8" Pitch of rivets 8" Lap of plates or width of butt straps 1'-4 3/8"  
 Per centages of strength of longitudinal joint rivets 89.25 plate 85.90 Working pressure of shell by rules 182 lb./in<sup>2</sup> Size of manhole in shell 16"x12"  
 Size of compensating ring Plate flanged No. and Description of Furnaces in each boiler 2 corrugated Material Steel Outside diameter 4'-1"  
 Length of plain part top ✓ bottom ✓ Thickness of plates crown 3/16" bottom 3/16" Description of longitudinal joint weld No. of strengthening rings none  
 Working pressure of furnace by the rules 180 lb. Combustion chamber plates: Material Steel Thickness: Sides 2 1/2" Back 2 1/2" Top 2 1/2" Bottom 2 3/2"  
 Pitch of stays to ditto: Sides 9 1/2"x8 1/4" Back 8 7/8"x8 1/2" Top 9 1/4"x8 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 182 lb.  
 Material of stays Steel Area at smallest part 1.76 in<sup>2</sup> Area supported by each stay 77.6 in<sup>2</sup> Working pressure by rules 181 lb. End plates in steam space:  
 Material Steel Thickness 1" Pitch of stays 16"x14 3/4" How are stays secured 2 Nuts Working pressure by rules 189 lb. Material of stays Steel  
 Area at smallest part 4.57 in<sup>2</sup> Area supported by each stay 236 in<sup>2</sup> Working pressure by rules 201 lb. Material of Front plates at bottom steel  
 Thickness 3/32" Material of Lower back plate steel Thickness 2 3/2" Greatest pitch of stays 13 1/2"x8 3/4" Working pressure of plate by rules 190 lb.  
 Diameter of tubes 3" Pitch of tubes 4 1/8"x4 1/8" Material of tube plates steel Thickness: Front 3/32" Back 3/4" Mean pitch of stays 10 7/16"  
 Pitch across wide water spaces 13 1/2" Working pressures by rules 189 lb. Girders to Chamber tops: Material Steel Depth and  
 thickness of girder at centre 9"x1 1/2" Length as per rule 2'-6 1/2" Distance apart 8 1/4" Number and pitch of stays in each 2 @ 9 1/4"  
 Working pressure by rules 251 lb. Steam dome: description of joint to shell None fitted % of strength of joint ✓  
 Diameter ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivet holes ✓  
 Pitch of rivets ✓ Working pressure of shell by rules ✓ Crown plates ✓ Thickness ✓ How stayed ✓

**35 SUPERHEATER.** Type None fitted Date of Approval of Plan \_\_\_\_\_ Tested by Hydraulic Pressure to \_\_\_\_\_  
 Date of Test \_\_\_\_\_ Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler \_\_\_\_\_  
 Diameter of Safety Valve \_\_\_\_\_ Pressure to which each is adjusted \_\_\_\_\_ Is Easing Gear fitted \_\_\_\_\_

1110-2523-0111



IS A DONKEY BOILER FITTED? *No.*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

- 2 connecting rod top-end bolts & nuts,*
- 2 connecting rod bottom-end bolts & nuts.*
- 2 main bearing-bolts with nuts.*
- 1 set coupling bolts with nuts.*
- 1 set feed & bilge pump valves.*
- Quantity of assorted bolts & nuts and iron & mild steel of various sizes.*

The foregoing is a correct description,

*Bow, M LACHLAN & Co., LTD.*  
*J Macdonald*  
DIRECTOR. Manufacturer.

Dates of Survey while building { During progress of work in shops - - } *1920 Jun 28-30 Sep 6. 10. 24. 30 Oct 14. 18. 25 Nov 9. 18. 23 Dec 1. 7. 20 (1921) Jan 10. 13. 17. 21. 27 Feb 8-18*  
 { During erection on board vessel - - - } *Mar 8. 11. 14 Apr 11. 12. 19 May 10. 12. 23*  
 Total No. of visits *31.* Is the approved plan of main boiler forwarded herewith *Yes*  
 " " " donkey " " *None*

Dates of Examination of principal parts—Cylinders *23/11/20* Slides *1/12/20* Covers *1/12/20* Pistons *1/12/20* Rods *23/11/20*  
 Connecting rods *7/12/20* Crank shaft *24/9/20* Thrust shaft *24/9/20* Tunnel shafts *24-9-20* Screw shaft *24-9-20* Propeller *21/11/21*  
 Stern tube *14/10/20* Steam pipes tested *12/4/21* Engine and boiler seatings *18/2/21* Engines holding down bolts *11/3/21*  
 Completion of pumping arrangements *12/5/21* Boilers fixed *11/3/21* Engines tried under steam *12/5/21*  
 Completion of fitting sea connections *18/2/21* Stern tube *18/2/21* Screw shaft and propeller *18/2/21*  
 Main boiler safety valves adjusted *19/4/21* Thickness of adjusting washers *P. Bl. 1/4" P. 7/16" S. S. Bl. 9/32" P. 5/16" S.*  
 Material of Crank shaft *Steel* Identification Mark on Do. *[LLOYD'S 374 B.C.F. 26-7-20]* Material of Thrust shaft *Steel* Identification Mark on Do. *[LLOYD'S 374 B.C.F. 26-7-20]*  
 Material of Tunnel shafts *Steel* Identification Marks on Do. *[LLOYD'S 374 B.C.F. 26-7-20]* Material of Screw shafts *Steel* Identification Marks on Do. *[LLOYD'S 374 B.C.F. 26-7-20]*  
 Material of Steam Pipes *S. S. Steel* Test pressure *540 lbs./sq. in.*

Is an installation fitted for burning oil fuel *No* 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 *No* If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.)  
*These engines & boilers have been built under special survey and in accordance with the Rules; the materials & workmanship are sound & good. They have been fitted on board in an efficient manner, tried under working conditions and found satisfactory.*  
*The machinery is eligible, in our opinion, to be classed with record of L.M.C. 5, 21. Dec. light.*

**It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 5. 21 CL**

*Kell*  
*3/6/21*  
*G.P.R.*

The amount of Entry Fee ... £ *3 : 0 :* When applied for,  
 Special ... £ *42 : 10 :* *31. 5 - 1921*  
 Donkey Boiler Fee ... £ *✓ :*  
 Travelling Expenses (if any) £ *✓ :* *3. 6. 1921*

*J. D. Boyle* + *Remarks*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *GLASGOW 31 MAY 1921*  
Assigned *+ L.M.C. 5. 21*



MACHINERY CERT.  
WRITTEN 1.6.21

The Surveyors are requested not to write on or below the space for Committee's Minute.