

REPORT ON MACHINERY.

No. 38681

WED. 30 APR. 1919

Received at London Office

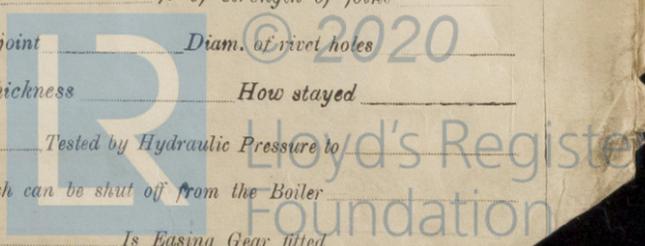
Date of writing Report 19 When handed in at Local Office 19 Port of Glasgow
 No. in Survey held at Reg. Book. Date, First Survey 27th July 1916, Last Survey 8th April 1919 (Number of Visits 40)
 on the S.S. CLAN MATHESON
 Master Built at Glasgow By whom built W Hamilton & Co Ltd (No 311) When built 1919
 Engines made at Glasgow By whom made D Rowan & Co Ltd (No 652) when made 1919
 Boilers made at do By whom made do (No 652) when made 1919
 Registered Horse Power Owners Cayzer Irvine & Co Port belonging to Glasgow
 Nom. Horse Power as per Section 28 514 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 27-44-73 Length of Stroke 48 Revs. per minute 80 Dia. of Screw shaft as per rule 14.7 as fitted 15.2 Material of screw shaft Steel
 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 5-0
 Dia. of Tunnel shaft as per rule 13.33 as fitted 3.2 Dia. of Crank shaft journals as per rule 14 as fitted 14.2 Dia. of Crank pin 4.2 Size of Crank webs 9x28 Dia. of thrust shaft under collars 14.3/4 Dia. of screw 17-6 Pitch of Screw 16-6 No. of Blades 4 State whether moveable no Total surface 98.2
 No. of Feed pumps 2 Diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work yes
 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 2 Sizes of Pumps 10 1/2 x 24 x 14, 7 x 9 1/2 x 18 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room four 3 1/2 In Holds, &c. no 1 two 3 1/2 no 2 two 3 1/2
 No. of Bilge Injections 1 sizes 8 Connected to condenser, or to circulating pump pump 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 none
 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 below
 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 2 suction How are they protected wood casing
 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 Top Platform

BOILERS, &c.—(Letter for record 3) Manufacturers of Steel Messrs William Beardmore & Co Ltd
 Total Heating Surface of Boilers 7668 Is Forced Draft fitted yes No. and Description of Boilers 3 Single ended
 Working Pressure 180 lb Tested by hydraulic pressure to 360 lb Date of test 13-2-19 No. of Certificate 14613
 Can each boiler be worked separately yes Area of fire grate in each boiler 63.34 No. and Description of Safety Valves to each boiler 2 spring loaded Area of each valve 9.67 Pressure to which they are adjusted 185 lb Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 1-3 Mean dia. of boilers 15-6 Length 11-6 Material of shell plates Steel
 Thickness 1/4 Range of tensile strength 28632 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams do Lap long. seams TRDBS Diameter of rivet holes in long. seams 1 7/16 Pitch of rivets 9/8 Lap of plates or width of butt straps 19 1/2
 Per centages of strength of longitudinal joint rivets 88.3 plate 85.6 Working pressure of shell by rules 183 Size of manhole in shell 16x12
 Size of compensating ring a flange No. and Description of Furnaces in each boiler 3 bright Material Steel Outside diameter 4-2 3/16
 Length of plain part top — bottom — Thickness of plates crown 3 1/2 bottom 3 1/2 Description of longitudinal joint welded No. of strengthening rings —
 Working pressure of furnace by the rules 188 Combustion chamber plates: Material Steel Thickness: Sides 3/32 Back 1/16 Top 3/32 Bottom 3/32
 Pitch of stays to ditto: Sides 10 5/8 x 9 1/4 Back 10 4/8 x 8 3/4 Top 10 5/8 x 9 1/4 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180
 Material of stays Steel Area at smallest part 2.395 Area supported by each stay 980 Working pressure by rules 219 End plates in steam space: Material Steel Thickness 1 1/2 Pitch of stays 21 1/2 x 20 1/2 How are stays secured nuts & v Working pressure by rules 181 Material of stays Steel
 Area at smallest part 8.29 Area supported by each stay 4450 Working pressure by rules 198 Material of Front plates at bottom Steel Thickness 1/2 Material of Lower back plate Steel Thickness 3/32 Greatest pitch of stays 13 5/8 x 8 3/4 Working pressure of plate by rules 187
 Diameter of tubes 2 3/4 Pitch of tubes 4 x 3 3/8 Material of tube plates Steel Thickness: Front 3/32 Back 3/4 Mean pitch of stays 9 7/8
 Pitch across wide water spaces 13 5/8 Working pressures by rules 181 Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 10 x (7/8 x 2) Length as per rule 35 9/16 Distance apart 10 5/8 Number and pitch of stays in each line 9 1/2
 Working pressure by rules 188 Steam dome: description of joint to shell none % 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

SUPERHEATER. Type none 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

If used, state whether, and when, one will be sent to the Hull of the Ship



State of writing Report 23rd
No. in Survey held at
Reg. Book. on the *St...*
Master *J. Redf...*
Engines made at
Boilers made at
Registered Horse Power
Nom. Horse Power as per
ENGINES, &c.—D
Dia. of Cylinders
the screw shaft fitted
the propeller boss
between the bearings in
ners are fitted, is the s
Dia. of Tunnel shaft
as fitted
ollars Dia. of s
No. of Feed pumps
No. of Bilge pumps
No. of Donkey Engines
Engine Room
No. of Bilge Injections
Are all the bilge suction pip
Are all connections with th
Are they fixed sufficiently h
Are they each fitted with a
What pipes are carried th
Are all Pipes, Cocks, Valv
Are the Bilge Suction Pip
the Screw Shaft Tunne
OILERS, &c.—(L
Total Heating Surface
Working Pressure
Can each boiler be worked
each boiler
Smallest distance between bo
Thickness Range
ing. seams
Per centages of strength of
Size of compensating ring
Length of plain part top
bottom
Working pressure of furnac
Pitch of stays to ditto: Sia
Material of stays
Material Thickness
Area at smallest part
Thickness Material
Diameter of tubes
Pitch across wide wat
Thickness of girder at cen
Working pressure by rule
Diameter Th
Pitch of rivets
UPERHEATER.
Date of Test
Diameter of Safety Valve

IS A DONKEY BOILER FITTED? *Yes* If so, is a report now forwarded? *Yes*

SPARE GEAR. State the articles supplied:— *2 top end bolts and nuts 2 bottom end bolts and nuts 2 main beam bolts & nuts 1 set coupling bolts & nuts feed and bilge pump valves, Iron Bolts & nuts assorted Propeller shaft*

The foregoing is a correct description,

David Cowan & Co Manufacturer.

Dates of Survey while building
During progress of work in shops -- *1916. (4.27.1917) May 15 June 19. (1918) Apr 10. May 2 June 5. Sept 2. 11. 14. 20. 24. Oct 1. 4. 16. 17. 28. Nov 23. 29.*
During erection on board vessel -- *Dec 3. 11. 19. 24. 26. (1919) Jan 8. 16. 17. 22. Feb 6. 11. 18. 17. 18. 20. Mar 3. 7. 22. 25. Apr 14. 8. 18.*
Total No. of visits *40.* Is the approved plan of main boiler forwarded herewith *Yes*
" " " donkey " " " *Yes*

Dates of Examination of principal parts—Cylinders *26.12.18* Slides *26.12.18* Covers *26.12.18* Pistons *26.12.18* Rods *26.12.18*
Connecting rods *26.12.18* Crank shaft *17.1.18* Thrust shaft *24.12.18* Tunnel shafts *17.2.19* Screw shaft *24.12.18* Propeller *24.12.18*
Stern tube *16.1.19* Steam pipes tested *20.2.19* Engine and boiler seatings *25.3.19* Engines holding down bolts *25.3.19*
Completion of pumping arrangements *8.4.19* Boilers fixed *25.3.19* Engines tried under steam *8.4.19 18.4.19*
Completion of fitting sea connections *Exh.* Stern tube *Exh.* Screw shaft and propeller *Exh.*
Main boiler safety valves adjusted *8.4.19* Thickness of adjusting washers *pt 1/2 pt 3/8 sta 3/8 center pt 3/8 sta 3/8 5/16 pt 5/16 5/16*
Material of Crank shaft *Steel* Identification Mark on Do. *17.10.18 JE* Material of Thrust shaft *Steel* Identification Mark on Do. *24.12.18*
Material of Tunnel shafts *Steel* Identification Marks on Do. ** 2 sub below* Material of Screw shafts *Steel* Identification Marks on Do. *8.11.25.3 8.11.25.3*
Material of Steam Pipes *Iron* Test pressure *540*
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.)
The machinery of this vessel has been constructed under special survey in accordance with the Rules and approved Plans and has been seen satisfactorily working under steam, material and workmanship are good.

The machinery is eligible in my opinion to be classed + LMC 4-19 and to have the record fitted for oil fuel 4-19 F.P. above 150°

It is submitted that this vessel is eligible for THE RECORD + LMC 4.19. F.D. Fitted for oil fuel 4.19. F.P. above 150°F.

The amount of Entry Fee ... £ 3 : 0 :
Special ... £ 45 : 17 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, *29.4.1919*
When received, *3.5.1919*

Committee's Minute *GLASGOW 29 APR 1919*

Assigned *+ L.M.C. 4.19* MACHINERY CERTIFICATE REGISTERED 30/4/19

Fitted for oil fuel 4.19 F.P. above 150°F.



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Certificate (if required) to be sent to Glasgow. 28-4-19