

# REPORT ON MACHINERY.

Received at London Office

Date of writing Report Sept 23<sup>rd</sup> 1919 When handed in at Local Office Sept 26<sup>th</sup> 1919 Port of DUNDEE.  
 No. in Survey held at Dundee Date, First Survey April 24<sup>th</sup> 1919 Last Survey Sept 20<sup>th</sup> 1919.  
 Log. Book. on the Shul S.S. "CHALDON" (Number of Vents 38.)  
 Master                      Built at Dundee By whom built Dundee S. B. Co. Ltd When built 1919.  
 Engines made at Dundee By whom made Cooper & Greig Ltd. when made 1919  
 Boilers made at Birkenhead By whom made Cammell Laird & Co. Ltd. when made 1919  
 Registered Horse Power                      Owners Burques, Fletcher & Co Port belonging to London  
 Nom. Horse Power as per Section 28 142 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted Yes

**ENGINES, &c.**—Description of Engines Triple Expansion, Surface condensing No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 18" 30" 50" Length of Stroke 33 Revs. per minute 84 Dia. of Screw shaft as per rule 10.46 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  
 Is 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 Yes If two  
 liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 3'-7"  
 Dia. of Tunnel shaft as per rule 9.03 Dia. of Crank shaft journals as per rule 9.48 Dia. of Crank pin 9 3/4" Size of Crank webs 13 1/2 x 5 3/8 Dia. of thrust shaft under  
 collars 9 3/4" Dia. of screw 13'-3" Pitch of Screw 14'-6" No. of Blades 4 State whether moveable no Total surface 60 sq  
 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 2 Sizes of Pumps Feed 7 x 5 x 12 No. and size of Suctions connected to both Bilge and Donkey pumps  
Subst 7 x 8 x 8  
 In Engine Room 3 @ 2 1/2" dia. In Holds, &c. Fore peak 1 @ 3" dia. A. Peak 1 @ 3" dia.  
in hold 2 @ 2 1/2" dia. aft hold 3 @ 2 1/2" Tunnel well 1 @ 2 1/2" Tank suction as per pumping plan.  
 No. of Bilge Injections / sizes 7 Connected to condenser or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 2 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 rooms bulkheads always accessible Yes  
 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 Forward bilge suction How are they protected Strong 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) Manufacturers of Steel                       
 Total Heating Surface of Boilers 2886 sq Is Forced Draft fitted no No. and Description of Boilers 2 S. S. Marine  
 Working Pressure 180 lbs a Tested by hydraulic pressure to                      Date of test                      No. of Certificate                       
 Can each boiler be worked separately                      Area of fire grate in each boiler                      No. and Description of Safety Valves to  
 each boiler Two spring loaded Area of each valve 4.9 sq Pressure to which they are adjusted 185 lbs a Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 5'-0" Mean dia. of boilers                      Length                      Material of shell plates  
 Thickness                      Range of tensile strength                      Are the shell plates welded or flanged                      Descrip. of riveting: cir. seams  
 Long. seams                      Diameter of rivet holes in long. seams                      Pitch of rivets                      Lap of plates or width of butt straps  
 Per centages of strength of longitudinal joint                      Working pressure of shell by rules                      Size of manhole in shell 46"  
 Size of compensating ring                      No. and Description of Furnaces in each boiler                      Material                      Outside diameter  
 Length of plain part                      Thickness of plates                      Description of longitudinal joint                      No. of strengthening rings  
 Working pressure of furnace by the rules                      Combustion chamber plates: Material                      Thickness: Sides                      Back                      Top                      Bottom                       
 Pitch of stays to ditto: Sides                      Back                      Top                      If stays are fitted with nuts or riveted heads                      Working pressure by rules  
 Material of stays                      Area at smallest part                      Area supported by each stay                      Working pressure by rules                      End plates in steam space:  
 Material                      Thickness                      Pitch of stays                      How are stays secured                      Working pressure by rules                      Material of stays  
 Area at smallest part                      Area supported by each stay                      Working pressure by rules                      Material of Front plates at bottom  
 Thickness                      Material of Lower back plate                      Thickness                      Greatest pitch of stays                      Working pressure of plate by rules  
 Diameter of tubes                      Pitch of tubes                      Material of tube plates                      Thickness: Front                      Back                      Mean pitch of stays  
 Pitch across wide water spaces                      Working pressures by rules                      Girders to Chamber tops: Material                      Depth and  
 thickness of girder at centre                      Length as per rule                      Distance apart                      Number and pitch of stays in each  
 Working pressure by rules                      steam dome: description of joint to shell                      % 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                      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

IS A DONKEY BOILER FITTED? *no*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—2 Top end bolts + nuts. 2 Bottom end bolts + nuts. 2 bearing bolts + nuts. Set of coupling bolts + nuts. Set of valves for air, feed, bilge + circulating pumps. 2 main + 2 aux. feed check valves. 6 Cylinder covers + 6 valve cover studs + nuts. 12 pinhead ring studs + nuts. Assorted bolts + nuts of various sizes. Assorted round + flat iron bars of various sizes.

The foregoing is a correct description,

FOR ROYAL CANAL & STEAM CO. LTD.

*M. Roper*

Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1919 APR. 24. 29. MAY 13. 22. JUNE 2. 19. 24. JULY 1. 24. AUG. 4. 13. 19. 22. 26. SEP. 2. 11. 19. 26. OCT. 2. 9. 1919 OCT. 14. 14. 24. NOV. 3. 6. 4. 13. 14. 21. 24. DEC. 3. 4. 5. 10. 12. 15. 16. 20. Total No. of visits 38.

Is the approved plan of main boiler forwarded herewith *No*  
" " " donkey " " " *no*

Dates of Examination of principal parts—Cylinders 26.9.19 Slides 24.10.19 Covers 26.9.19 Pistons 24.10.19 Rods 2.10.19 Connecting rods 2.10.19 Crank shaft 22.5.19 Thrust shaft 22.5.19 Tunnel shafts 11.9.19 Screw shaft 11.9.19 Propeller 11.9.19 Stern tube 11.9.19 Steam pipes tested 4.12.19 Engine and boiler seatings 19.9.19 Engines holding down bolts 21.11.19 Completion of pumping arrangements 16.12.19 Boilers fixed 13.11.19 Engines tried under steam 16.12.19 Completion of fitting sea connections 6.11.19 Stern tube 6.11.19 Screw shaft and propeller 6.11.19 Main boiler safety valves adjusted 12.12.19. Thickness of adjusting washers 1/16" for all valves.

Material of Crank shaft *Steel* Identification Mark on Do. *865 J.H.M.* Material of Thrust shaft *Steel* Identification Mark on Do. *865 J.H.M.* Material of Tunnel shafts *Steel* Identification Marks on Do. *865 J.H.M.* Material of Screw shafts *Steel* Identification Marks on Do. *865 J.H.M.* Material of Steam Pipes *S.D. Copper, 4" Bore x 6 W.G.* Test pressure *350 lbs per sq in*

Is an installation fitted for burning oil fuel  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.)  
*These engines and boilers have been built under special survey and in accordance with the Society's Rules. The materials + workmanship are sound + good. The machinery has been satisfactorily fitted on board, tried in full working conditions + found in good order. It is eligible in my opinion to have record of L.M.C. 12.19.*

*The engines of this vessel were originally intended for use in a C.S. Standard vessel. But as from July last this vessel has been privately owned.*

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 12.19

*Fees to be fixed in London. Please see our letter of Dec 20<sup>th</sup> 1919.*

Table with columns for fee type, amount, and date received. Includes: Survey of ship (£13 18), Special fitting on board (£6 19), Donkey Boiler Fee (£2), Travelling Expenses (if any) (£).

*John Mackintosh*  
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute Assigned *+ L.M.C. 12.19*

FRI. MAY. 14 1920 © 2020 Lloyd's Register Foundation

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