

REPORT ON MACHINERY.

No. 40428

Received at London Office

WED OCT 16 1920

Reporting Report 2. 10. 1920 When handed in at Local Office 4. 10. 1920 Port of Glasgow
 Survey held at Glasgow Date, First Survey 20. 1. 1919 Last Survey 23. 9. 1920
 on the TSS MUNDRA
 Built at Glasgow By whom built Barclay Curle & Co. Ltd. No. 578 When built 1920
 made at No. 0 By whom made No. 0 No. 578 when made 1920
 made at No. 0 By whom made No. 0 when made 1920
 Indicated Horse Power Owners British India Steam Navigation Co. Ltd. Port belonging to
 Indicated Power as per Section 28 900 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 Description of Engines Twin Screw Triple Expansion No. of Cylinders 6 No. of Cranks 6
 Cylinders 21 - 35 1/2 - 61 Length of Stroke 45 Revs. per minute 92 Dia. of Screw shaft 13.36 as per rule 13.29 Material of screw shaft Steel
 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
 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
 the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes If two
 are fitted, is the shaft lapped or protected between the liners Length of stern bush 4-8
 Tunnel shaft as per rule 11.86 Dia. of Crank shaft journals as per rule 12.45 Dia. of Crank pin 12.5 Size of Crank webs 8 1/2 Dia. of thrust shaft under
 2 5/8 Dia. of screw 16-3 Pitch of Screw 18-9 No. of Blades 3 State whether moveable Yes Total surface 68 1/2
 Feed pumps 4 Diameter of ditto 4 1/4 Stroke 22 1/2 Can one be overhauled while the other is at work Yes
 Bilge pumps 4 Diameter of ditto 4 1/4 Stroke 22 1/2 Can one be overhauled while the other is at work Yes
 Donkey Engines 4 Sizes of Pumps 8 x 12 1/2 x 10 9/16 x 10 1/2 x 10 1/2 No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room (2) 3 1/2 Stokehold (2) 3 1/2 In Holds, &c. No 1-2-3-4-5 each (2) 3 1/2
 Tunnel well (1) 2 1/2
 Bilge Injections 2 sizes 8 Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes (2) 2 1/2
 Are 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
 connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both
 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
 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
 pipes are carried through the bunkers None How are they protected
 Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes
 Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes
 Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Upper Deck
 MFRS, &c. (Letter for record S) Manufacturers of Steel D. Colville & Sons, W. Beardmore & Co.
 Heating Surface of Boilers 12628 Is Forced Draft fitted Yes No. and Description of Boilers 4 Single ended
 Working Pressure 215 Tested by hydraulic pressure to 377 Date of test 6.5.20 No. of Certificate 15286
 Can boiler be worked separately Yes Area of fire grate in each boiler 75.16 No. and Description of Safety Valves to
 per 2 spring loaded Area of each valve 9.62 Pressure to which they are adjusted 220 lb. Are they fitted with easing gear Yes
 Distance between boilers or uptakes and bunkers or woodwork 15 Mean dia. of boilers 16-6 Length 12-0 Material of shell plates Steel
 Range of tensile strength 31-635 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams + Lap
 Diameter of rivet holes in long. seams 1 3/32 Pitch of rivets 10 1/2 Lap of plates or width of butt straps 23 1/2
 Ages of strength of longitudinal joint rivets 92.8 plate 84.3 Working pressure of shell by rules 257 Size of manhole in shell 16 x 12
 Compensating ring 10 1/2 x 1 1/4 No. and Description of Furnaces in each boiler 4 Corrugated Material Steel Outside diameter 3-9 1/4
 of plain part top Thickness of plates crown 21 bottom 32 Description of longitudinal joint Welded No. of strengthening rings -
 Working pressure of furnace by the rules 236 Combustion chamber plates: Material Steel Thickness: Sides 11/16 Back 11/16 Top 11/16 Bottom 1
 stays to ditto: Sides 7 3/4 x 8 1/4 Back 7 3/4 x 9 Top 8 x 9 If stays are fitted with nuts or riveted heads Yes Working pressure by rules 219
 of stays Steel Area at smallest part 2.030 Area supported by each stay 750 Working pressure by rules 253 End plates in steam space:
 Steel Thickness 1 1/4 Pitch of stays 20 x 16 How are stays secured 6 x Working pressure by rules 219 Material of stays Steel
 smallest part 7.860 Area supported by each stay 320 Working pressure by rules 256 Material of Front plates at bottom Steel
 Material of Lower back plate Steel Thickness 29 Greatest pitch of stays 14 1/2 Working pressure of plate by rules 216
 of tubes 2 1/2 Pitch of tubes 3 3/4 x 3 3/4 Material of tube plates Steel Thickness: Front 31/32 Back 1/8 Mean pitch of stays 7 1/2
 across wide water spaces 13 1/2 Working pressures by rules 224 Girders to Chamber tops: Material Steel Depth and
 of girder at centre 10 x 32 (2) Length as per rule 2-10 Distance apart 9 Number and pitch of stays in each (3) 8
 Working pressure by rules 215 Steam dome: description of joint to shell None % of strength of joint
 Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes
 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
 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

W 199-0025

IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

SPARE GEAR.

State the articles supplied :-

2 Top end bolts and nuts, 2 bottom end bolts and nuts, Set Coupling bolts and nuts 2 main bearing bolts and nuts feed and bilge Pump Valves Iron, bolts and nuts of various sizes and other articles

The foregoing is a correct description,

FOR BARCLAY, CURLE & CO., LTD.

John Alexander

Manufacturer.

Dates of Survey while building
During progress of work in shops - 1919: Jan 20-28-29 Feb 11-12-24-27 Mar 21-28 Apr 1-3-30 May 20 Jun 2-12-23-26 Jul 9-10 Aug 20-25 Sep 8-17 Oct 1-2-9-16-15-27-30 Nov 4-11-18-20-21 Dec 2-4-5-8-16-19-26-31 (1920) Jan 12-13-26-27-28 Feb 3-5-9-10-12-13-18-19-24-25 Mar 9-11-16-19-23-24-26-29-31 Apr 8-13-16-19-20-26
During erection on board vessel - 1920: Sep 2-7-10-23
Total No. of visits 101

Is the approved plan of main boiler forwarded herewith Yes

" " " donkey " " "

Dates of Examination of principal parts - Cylinders 11.11.19 Slides 5.12.19 Covers 20.5.19 Pistons 20.5.19 Rods 20.5.19

Connecting rods 5.12.19 Crank shaft 24.6.20 Thrust shaft 24.5.20 Tunnel shafts 25.2.20 Screw shafts 19.2.20 Propeller 13.2.20

Stern tube 13.2.20 Steam pipes tested 16.8.19 Engine and boiler seatings 16.3.20 Engines holding down bolts 2.9.20

Completion of pumping arrangements 21.9.20 Boilers fixed 2.9.20 Engines tried under steam 10.9.20 23.9.20

Completion of fitting sea connections 21.6.20 Stern tube 16.3.20 Screw shaft and propeller 21.6.20

Main boiler safety valves adjusted 10.9.20 Thickness of adjusting washers Port F 12 A 12 Pen F 12 A 16 Star F 12 A 32 Port F 12 A 16

Material of Crank shaft Steel Identification Mark on Do. TM 24.6.20 Material of Thrust shafts Steel Identification Mark on Do. See below

Material of Tunnel shafts Steel Identification Marks on Do. See below Material of Screw shafts Steel Identification Marks on Do. See below

Material of Steam Pipes Iron Test pressure 645 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 Yes If so, state name of vessel No 516 "MASULA" (Bu. No. 1301)

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

Lloyd's 12180A 705 TM 24.2.20
Lloyd's 9327B 576 428SN WC
Lloyd's 12134A 12276A 12134A 12216A 12273A 12234A 12274A 10.2.20JE 10.2.20JE
Lloyd's 3754 3756 6313 3739 657 3753 3715 2 611 3738
12234A 12276A 12134A 12216A 12273A 12234A 12274A 10.2.20JE 10.2.20JE
Lloyd's 3741 12276A 12135A 12216B 12135B 3785 3785
TM 25.2.20 TM 19.2.20 TM 19.2.20 TM 19.2.20 TM 19.2.20 TM 19.2.20 TM 19.2.20 TM 19.2.20

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. Materials and workmanship are good.

The machinery is eligible in our opinion to be Classed + LMC 9.20 and to have record of fitted for oil fuel 9.20 F.P. above 150°F.

The amount of Entry Fee ... £ 3 : 0 :
Special ... £ 65 : 0 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, 5-10-1920
When received, 28/10/19

As Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW.

5-OCT-1920

Assigned

+L.M.C 9.20. F.D.

MACHINERY DEPT
WHITTEN

TUE. OCT. 26 1920

Fitted for Oil Fuel 9.20. F.P. above 150°F.



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