

Rpt. 4.

REPORT ON MACHINERY.

No. 31787

Date of writing Report 19 When handed in at Local Office 22/4/1920 Port of Hull
No. in Survey held at Hull Date, First Survey 30/7/19 Last Survey 8/4/1920
Reg. Book. on the S.S. "RED CAR" (Number of Visits 35)
Master Built at York By whom built York F.R. & Co. Tons Gross 1475 Net 794
Engines made at Hull By whom made Rankine & Sons Ltd (A133) when made 1920
Boilers made at Hull By whom made G.S. when made 1920
Registered Horse Power Owners P.O. Steam Navigation Co. Ltd Port belonging to London
Nom. Horse Power as per Section 28 172 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 18"-30"-50" Length of Stroke 33" Revs. per minute Dia. of Screw shaft as per rule 11.45 Material of screw shaft as fitted 10 1/2" steel
Is the screw shaft fitted with a continuous liner the whole length of the stern tube cut 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 If two liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 3-7
Dia. of Tunnel shaft as per rule 9.48 Dia. of Crank shaft journals as per rule 9.48 Dia. of Crank pin 9 3/4" Size of Crank webs 18x6 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 Two Diameter of ditto 2 1/2" Stroke 18" Can one be overhauled while the other is at work Yes
No. of Bilge pumps Two Diameter of ditto 2 1/2" Stroke 18" Can one be overhauled while the other is at work Yes
No. of Donkey Engines 3 Sizes of Pumps 2 WEIRS 7x5x12 BALLAST 7x8x6 No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room 5 @ 2 1/2" BORE In Holds, &c. 4 @ 2 1/2" and 4 @ 2 1/2" FORD
2 @ 2 1/2" & 1 @ 4" AFT
No. of Bilge Injections 7 sizes 7" Connected to condenser, or to circulating pump C.M. 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 room 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 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
Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges
Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Upper deck

BOILERS, &c.—(Letter for record 5) Manufacturers of Steel Harland & Sons
Total Heating Surface of Boilers 2886 sq ft Is Forced Draft fitted No No. and Description of Boilers Two triple expansion Part 25-11-19 Part 3406
Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test MAR 3-12-19 No. of Certificate MAR 3409
Can each boiler be worked separately Yes Area of fire grate in each boiler 48.5 sq ft No. and Description of Safety Valves to each boiler Two spring loaded Area of each valve 4.9 sq in Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes
Smallest distance between boilers or uptakes and bunkers or woodwork 5-0 Mean dia. of boilers 15 1/4" Length 10-6 Material of shell plates Steel
Thickness 1 1/8" Range of tensile strength 28 to 32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams double long. seams T.P.D.B.S. Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 7 1/8" Lap of plates or width of butt straps 1-4 3/8
Per centages of strength of longitudinal joint rivets 87 1/2% plate 85-87% Working pressure of shell by rules 183 lbs Size of manhole in shell 16x12
Size of compensating ring 2-10 No. and Description of Furnaces in each boiler 3 Repton Material Steel Outside diameter 4 1/4"
Length of plain part top Thickness of plates crown 3 1/2" Description of longitudinal joint Welded No. of strengthening rings
bottom Working pressure of furnace by the rules 183 lbs Combustion chamber plates: Material Steel Thickness: Sides 4" Back 5" Top 5" Bottom 4"
Pitch of stays to ditto: Sides 8 5/8 x 8 5/8 Back 8 5/8 x 8 5/8 Top 8 5/8 x 8 5/8 If stays are fitted with nuts or riveted heads No Working pressure by rules 187 lbs
Material of stays Steel Area at smallest part 5-1.76 Area supported by each stay 11.94 Working pressure by rules 180 lbs End plates in steam space:
Material Steel Thickness 1 1/4" Pitch of stays 22 5/8 x 1 1/2 How are stays secured IN & W Working pressure by rules 180 lbs Material of stays Steel
Area at smallest part 7.24 Area supported by each stay 396 Working pressure by rules 190 Material of Front plates at bottom Steel
Thickness 1" Material of Lower back plate Steel Thickness 1 1/8" Greatest pitch of stays 13 x 8 5/8 Working pressure of plate by rules 185 lbs
Diameter of tubes 3 1/2" Pitch of tubes 4 1/2 x 4 1/2 Material of tube plates Steel Thickness: Front 1" Back 3/4" Mean pitch of stays 11 5/32
Pitch across wide water spaces 14 Working pressures by rules 183 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 8 5/8 x 1 3/8 Length as per rule 30 5/8 Distance apart 8 5/8 Number and pitch of stays in each Two @ 8 5/8
Working pressure by rules 183 lbs Steam dome: description of joint to shell 3-5 % 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?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—Two top end, two bottom end, two main bearing & 8 coupling bolts & nuts. One set in feed & bilge pump valves, 2 main & 2 aux feed check valves, 2 boiler safety valve springs, 2 feed pump escape valve springs, 50 lbs assorted bolts & nuts, a quantity of iron of various sizes 6 cylinder cover & 8 steam chest cover studs & nuts, 8 condenser tubes & 16 funnels, 8 boiler tubes, spares for auxiliary machinery &c

The foregoing is a correct description,

FOR EARLE'S
SHIPBUILDING & ENGINEERING CO. L^{TD}

As Tyacke

Manufacturer.

ASSISTANT MANAGER
Dates of Survey while building { During progress of work in shops -- 1919 Jul 30. Aug 14. 18. 25. Sep 1. 8. 9. 10. 19. 24. 26. 29. Oct 5. 8. 15. 17. Nov 21. 24.
During erection on board vessel --- 26. 29. Dec 1. 3. 10. 17. 30. 1920 Jan 1. 6. 17. 24. Feb 8. 19. Mar 7. 11. Apr 6. 8.
Total No. of visits 35.

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

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 8/9/19 Slides 24/9/19 Covers 24/9/19 Pistons 24/9/19 Rods 8/9/19
Connecting rods 8/9/19 Crank shaft 8/9/19 Thrust shaft 30/12/19 Tunnel shafts 30/12/19 Screw shaft 30/12/19 Propeller 30/12/19
Stern tube 30/12/19 Steam pipes tested 20/2/20 Engine and boiler seatings 5/2/20 Engines holding down bolts 5/2/20
Completion of pumping arrangements 8/4/20 Boilers fixed 2/3/20 Engines tried under steam 8/4/20
Completion of fitting sea connections 7/1/20 8/9/20 Stern tube 19/2/20 Screw shaft and propeller 19/2/20
Main boiler safety valves adjusted 2/3/20 at 64/20 57.5 Thickness of adjusting washers $\frac{1}{8}$ " $\frac{5}{16}$ " $\frac{1}{8}$ " $\frac{5}{16}$ "
Material of Crank shaft *Steel* Identification Mark on Do. 884 Material of Thrust shaft *Steel* Identification Mark on Do. 2416
Material of Tunnel shafts *Steel* Identification Marks on Do. 2418 Material of Screw shafts *Steel* Identification Marks on Do. 2415
Material of Steam Pipes *L.W. Steel* Test pressure 540 lbs

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 *C.S. Standard cutter*

General Remarks (State quality of workmanship, opinions as to class, &c. *The engines & boiler of this vessel have been built under special survey & the materials & workmanship are good. On completion they were examined while running full power trials in the Dumbel & found satisfactory.*

The machinery throughout is now in good & efficient condition & eligible in my opinion to have the word L.M.C. 4-20 marked in Red in the Society's Register Book.

It is submitted that

this vessel is eligible for

THE REGISTRATION

+ L.M.C 4.20 *20/4/20*

AVD

99H

The amount of Entry Fee ... £ : :
Special ... £ 32-16-0
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :

When applied for,

28/4/20

When received,

26/6/20

Harbottle

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE MAY 4 1920

Assigned

+ L.M.C 4.20

MACHINERY CERT
WRITTEN



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Lloyd's Register
Foundation