

# REPORT ON MACHINERY.

24/12 1920 Port of Hull.

Received at London Office

TUE. 28 DEC. 1920

Date of writing Report 19 When handed in at Local Office

No. in Survey held at Hull. Date, First Survey 4. 12. 19 Last Survey 23. 12. 1920  
Reg. Book. on the ST. "AVANT GARDE."

Master Built at Selby. By whom built Cochran & Sons Ltd Tons Gross 491. Net 528. When built 1920.

Engines made at Hull. By whom made Ames & Smith Ltd No 3185 when made 1920.

Boilers made at Hull. By whom made Ames & Smith Ltd No 3185 when made 1920.

Registered Horse Power Owners La Roche Francais. Port belonging to Lecamp.

Nom. Horse Power as per Section 28 127. 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 15" 25" 42" Length of Stroke 27" Revs. per minute 112. Dia. of Screw shaft as per rule 8.48" Material of screw shaft S. as fitted 8 3/4"

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 ✓ If two liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 40" ✓

Dia. of Tunnel shaft as per rule 4.47" Dia. of Crank shaft journals as per rule 7.84" Dia. of Crank pin 8" Size of Crank web 15 3/4" x 5" Dia. of thrust shaft under collars 8" Dia. of screw 11-0. Pitch of Screw 10-4 1/2 No. of Blades 4. State whether moveable no. Total surface 40 sq ft

No. of Feed pumps 2 Diameter of ditto 2 1/2" Stroke 18" Can one be overhauled while the other is at work yes ✓

No. of Bilge pumps 2. Diameter of ditto 2 1/2" Stroke 18" Can one be overhauled while the other is at work yes ✓

No. of Donkey Engines 2. Sizes of Pump 6 1/2" x 4 3/4" x 6. 7" x 7" x 8" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 3-2" FORWARD. AFT. EJECTOR. In Holds, &c. 4-2" RESERVE BUNKER. AFTER SLUSHWELL, FORWARD HOLD, FORWARD SLUSHWELL, EJECTOR FOR BILGE.

No. of Bilge Injections / sizes 4. Connected to condenser, or to circulating pump pump. Is a separate Donkey Suction fitted in Engine room & size yes 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 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 Suctions. 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 ✓ Is it fitted with a watertight door worked from ✓

BOILERS, &c.—(Letter for record S. Manufacturers of Steel John Spencer & Sons.

Total Heating Surface of Boilers 2371 sq ft Is Forced Draft fitted no. No. and Description of Boilers One single-ended.

Working Pressure 150 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 4. 10. 20. No. of Certificate 3455.

Can each boiler be worked separately ✓ Area of fire grate in each boiler 74 sq ft No. and Description of Safety Valves to each boiler 2-Spring. Area of each valve 7.068 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 11" Mean dia. of boilers 183.62 Length 11-0 Material of shell plates S.

Thickness 3/16" Range of tensile strength 29-33. Are the shell plates welded or flanged " Descrip. of riveting: cir. seams DR. long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8 3/4" Lap of plates or width of butt straps 18 3/8"

Per centages of strength of longitudinal joint rivets 87.9 plate 85.7 Working pressure of shell by rules 181. Size of manhole in shell 16" x 12"

Size of compensating ring 3-4" x 2-6" No. and Description of Furnaces in each boiler 4-Plain Material S. Outside diameter 38.62"

Length of plain part top 6-10 1/2" bottom 6-4 1/2" Thickness of plates crown 13/16" bottom 13/16" Description of longitudinal joint welded. No. of strengthening rings ✓

Working pressure of furnace by the rules 208. Combustion chamber plates: Material S. Thickness: Sides 11/16" Back 11/16" Top 11/16" Bottom 13/16"

Pitch of stays to ditto: Sides 9 3/4" x 7 1/2" Back 9" x 10" Top 9 3/4" x 7 1/2" If stays are fitted with nuts or riveted heads nuts. Working pressure by rules 185 lbs.

Material of stays S Area at smallest part 2.66 sq in Area supported by each stay 89.07 sq in Working pressure by rules 228. End plates in steam space:

Material S. Thickness 1 1/4" Pitch of stays 19 1/2" x 19 3/4" How are stays secured DN & W Working pressure by rules 192. Material of stays S

Area at smallest part 7.242 sq in Area supported by each stay 385.156 sq in Working pressure by rules 196 Material of Front plates at bottom S.

Thickness 31/32 Material of Lower back plate S. Thickness 31/32 Greatest pitch of stays 3 1/2" x 9 5/8" Working pressure of plate by rules 230.

Diameter of tubes 3 1/4" Pitch of tubes 9 1/4" x 9 1/2" Material of tube plates S. Thickness: Front 31/32 Back 29/32 Mean pitch of stays 9.2

Pitch across wide water spaces 13 1/2" Working pressures by rules 197. Girders to Chamber tops: Material S. Depth and

Thickness of girder at centre 9 1/4" x 1.75" Length as per rule 34" Distance apart 9.75" Number and pitch of stays in each 30 7 1/2"

Working pressure by rules 183. 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:— Two each top and bottom end connecting rod bolts and nuts, two main bearing bolts & nuts, one set of coupling bolts and nuts, one set each feed & bilge pump valves, iron of various sizes, a quantity of assorted bolts, nuts, etc. Piston rings for each cylinder, one set each top & bottom end brasses, one set of main bearing brasses.

The foregoing is a correct description,

For AMOS & SMITH LTD.

A. S. Robinson

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1919: Dec 4. 1920: Mar 24, June 27-29 July 6, 4-26 Aug 12-26-28 } { During erection on board vessel --- Sept 2-10, 16-20-31 Oct 4-10 Nov 16-19-20-25 Dec 2-4-9-23 } Total No. of visits 24

Is the approved plan of main boiler forwarded herewith 710

Is the approved plan of main boiler forwarded herewith " " " donkey " " "

Dates of Examination of principal parts—Cylinders 13.9.20 Slides 16.9.20 Covers 16.9.20 Pistons 16.9.20 Rods 20.9.20 Connecting rods 20.9.20 Crank shaft 7.7.20 Thrust shaft 25.8.20 Tunnel shafts ✓ Screw shaft 27.3.20 Propeller 27.3.20 Stern tube 27.3.20 Steam pipes tested 20.11.20 Engine and boiler seatings 31.3.20 Engines holding down bolts 19.11.20 Completion of pumping arrangements 2.12.20 Boilers fixed 19.11.20 Engines tried under steam 25.11.20 Completion of fitting sea connections 31.3.20 Stern tube 31.3.20 Screw shaft and propeller 31.3.20 Main boiler safety valves adjusted 25.11.20 Thickness of adjusting washers SV 3/8" PV 5/16" Material of Crank shaft S Identification Mark on Do. 2285 Material of Thrust shaft S Identification Mark on Do. 2288 Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts S Identification Marks on Do. 2448 Material of Steam Pipes Copper solid drawn Test pressure 36lbs 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 Yes Is this machinery duplicate of a previous case yes If so, state name of vessel SS "PATRIE" Hull No. 32224

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

The engines and boiler of this vessel have been constructed under special survey in accordance with the Rules. The materials and workmanship are sound and good. The boiler tested by hydraulic pressure and with the engines secured on board and tested under steam they are now in good order and safe working condition, and respectfully submitted as being eligible in my opinion to be classed with the notation of +LMC 12.20 in the Register's book.

It is submitted that this vessel is eligible for THE RECORD. + LMC. 12. 20

Reed 30/12/20

The amount of Entry Fee ... £ 2 : : Special ... £ 19 : 1 : Donkey Boiler Fee ... £ : : Travelling Expenses (if any) £ : : When applied for, 24/12-19-20 When received, 3.1.1921

A. G. Mackillop

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

TUE JAN. 4 1921

+ LMC 12.20

FRI AUG. 19 1921

CERTIFICATE WRITTEN copy 26.3.23



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