

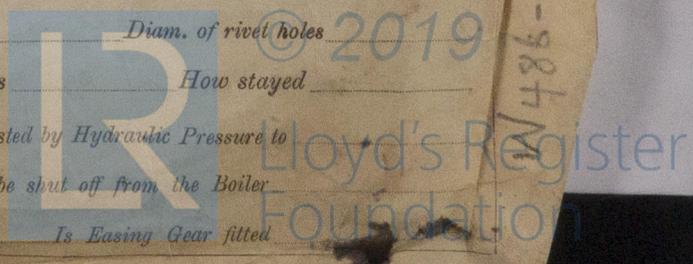
REPORT ON MACHINERY.

No. 634/44

Report No. 16th 1920 when handed in at Local Office 17 NOV 1920 Port of London
Received at London Office 17 NOV 1920
Held at London Date, First Survey October 25th 1920 Last Survey Nov. 4th 1920
S.S. "Bulgarian" ex Otto Kalthoff (Number of Visits Five) Tons } Gross 2064
Built at Fleusburg By whom built Fleusburg-Cliffet & Co. } Net 1268
When built 1904
Fleusburg By whom made Fleusburger-Cliffet & Co. when made 1904
do. By whom made do. when made 1904
Power Owners Ellerman Lines Ltd. Port belonging to London
Power as per Section 28 780, 200 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted Yes

&c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3
Cylinders $21\frac{5}{8} \times 35\frac{1}{2} \times 55$ Length of Stroke $35\frac{7}{16}$ Revs. per minute Dia. of Screw shaft as per rule Material of screw shaft as fitted
Screw shaft fitted with a continuous liner the whole length of the stern tube Is the after end of the liner made water tight
If the liner is in more than one length are the joints burned If the liner does not fit tightly at the part rings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive If two shafts are used, is the shaft lapped or protected between the liners Length of stern bush
Dia. of crank shaft journals as per rule 10.55 as fitted 9.15/16 Dia. of Crank pin 10.3/8 Dia. of thrust shaft under
Dia. of screw Pitch of Screw No. of Blades State whether moveable Total surface
Revs. 2 Diameter of ditto $3\frac{5}{16}$ Stroke } Can one be overhauled while the other is at work Yes
Revs. 2 Diameter of ditto $3\frac{1}{4}$ Stroke } $23\frac{1}{2}$ Can one be overhauled while the other is at work Yes
Engines Two Sizes of Pumps $7\frac{1}{2} \times 9 \times 10$ & $6 \times 4\frac{1}{2}$ No. and size of Suctions connected to both Bilge and Donkey pumps
In Holds, &c. 2 - $2\frac{3}{4}$
Suctions 1 size $3\frac{3}{4}$ Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room, & size 1 - $2\frac{1}{2}$
Suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes Are the sluices on Engine room bulkheads always accessible
Connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks both
Efficiently 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
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
Carried through the bunkers none How are they protected
Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes
Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes
Shaft Tunnel watertight Is it fitted with a watertight door Yes worked from top platform

&c.—(Letter for record S) Manufacturers of Steel
Surface of Boilers 2611 Is Forced Draft fitted Yes No. and Description of Boilers 2. Single ended
Pressure 170 Tested by hydraulic pressure to Date of test No. of Certificate
Can be worked separately Yes Area of fire grate in each boiler $35\frac{1}{2} \phi$ No. and Description of Safety Valves to
Spring loaded Area of each valve 7.07 0. Pressure to which they are adjusted not adjusted Are they fitted with easing gear Yes
Clearance between boilers or uptakes and bunkers or woodwork 2 ft. Mean dia. of boilers $11.3\frac{3}{8}$ Length $11.3\frac{3}{8}$ Material of shell plates Steel
Range of tensile strength min 27.9 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams Otto R.
Diameter of rivet holes in long. seams $1\frac{3}{16}$ Pitch of rivets $7\frac{7}{8}$ Lap of plates or width of butt straps $18\frac{1}{8}$
Strength of longitudinal joint rivets 107/20 plate 85/20 Working pressure of shell by rules 190 Size of manhole in shell $15\frac{3}{4} \times 12$
Staying ring $7\frac{7}{8}$ No. and Description of Furnaces in each boiler 2 horizontal Material Steel Outside diameter $44\frac{1}{2}$
Top 4 Thickness of plates crown 19 Description of longitudinal joint welded No. of strengthening rings
Bottom 7 bottom 32
Area of furnace by the rules 212 Combustion chamber plates: Material Steel Thickness: Sides 19 Back 19 Top 19 Bottom 2
Do ditto: Sides $7\frac{1}{16} \times 7\frac{1}{2}$ Back $7\frac{1}{16} \times 7\frac{1}{16}$ Top $7\frac{1}{2} \times 7\frac{1}{16}$ If stays are fitted with nuts or riveted heads nuts Working pressure by rules 205
Area at smallest part 1.45 0. Area supported by each stay 59.30 Working pressure by rules 195 End plates in steam space:
Thickness 1 Pitch of stays $53.14\frac{15}{16}$ How are stays secured nuts & washers Working pressure by rules 200 Material of stays Steel
Area supported by each stay 230 0. Working pressure by rules 250 Material of Front plates at bottom Steel
Material of Lower back plate Steel Thickness 1 Greatest pitch of stays 12 Working pressure of plate by rules 200
Pitch of tubes $32 \times 3\frac{15}{16}$ Material of tube plates Steel Thickness: Front 1 Back 29 Mean pitch of stays $7\frac{13}{16}$
Wide water spaces $10\frac{1}{4}$ Working pressures by rules 200 Girders to Chamber tops: Material Depth and
Der at centre $10\frac{7}{16} \times 1\frac{1}{16}$ Length as per rule 2-9 Distance apart $7\frac{1}{16}$ Number and pitch of stays in each 3 - $7\frac{1}{2}$
Pressure by rules 175 Steam dome: description of joint to shell % of strength of joint
Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes
Working pressure of shell by rules Crown plates Thickness How stayed
SUPER. Type Date of Approval of Plan Tested by Hydraulic Pressure to
Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler
Pressure to which each is adjusted Is Easing Gear fitted



5520-984/W 486-0255

IS A DONKEY BOILER FITTED?

no

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops - - }
{ During erection on board vessel - - - }
Total No. of visits

Oct. 25-27-30. Nov 3-4.

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders Slides Covers Pistons Rods

Connecting rods Crank shaft Thrust shaft Tunnel shafts Screw shaft Propeller

Stern tube Steam pipes tested Engine and boiler seatings Engines holding down bolts

Completion of pumping arrangements Boilers fixed Engines tried under steam

Completion of fitting sea connections Stern tube Screw shaft and propeller

Main boiler safety valves adjusted Thickness of adjusting washers

Material of Crank shaft Identification Mark on Do. Material of Thrust shaft Identification Mark on

Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts Identification Marks on

Material of Steam Pipes Test pressure

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. The engines & boilers

been examined and the dimensions compared with the plans and checked with the actual plans.

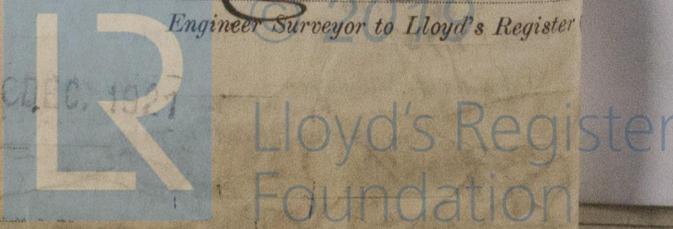
The machinery & boilers appear to be in good condition and the propeller, screw shaft & sea cocks have been examined & reported on and the safety valves adjusted under steam, will be eligible in my opinion for the notation of Rule 11-20. Working pressure of boilers 170 lbs per sq in.

Investigate (if required) to be sent to Committee's Minute.

The amount of Entry Fee ... £	:	:	When applied for,
Special ... £	:	:	19
Donkey Boiler Fee ... £	:	:	When received,
Travelling Expenses (if any) £	:	:	19

J. H. Cornish
Engineer Surveyor to Lloyd's Register

Committee's Minute TUE. DEC. 14 1920
Assigned



FRI. 1 FEB. 1921