

REPORT ON MACHINERY.

Received at London Office

TUE. NOV. 9 1920

Date of writing Report Aug. 30 1920 When handed in at Local Office Oct. 11 1920 Port of Portland, Oregon,
 No. in Survey held at Linnton, Oregon Date, First Survey Feb. 5, 1919 Last Survey Nov. 3, 1919.
 Reg. Book. 14. (Number of Visits 14.)

on the Motor Vessel "PARTHIA" ex "AVANCE" Tons Gross 661.52
Net 485.91
 Master G. Host Built at Linnton, Ore. By whom built Columbia Engineering Works When built 1919

Engines made at Augustendal, Sweden By whom made J.W.Svenson's Motor Mfg. Co. when made 1919
 Donkey Boilers made at San Francisco, Calif. By whom made Main Iron Works when made 1919

Brake Registered Horse Power 320 Owners Lars Christensen Port belonging to Sandefjord, Norway.
 Nom. Horse Power as per Section 28 92 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Hot Bulb, 250 lbs. per sq. in. Max. Pressure No. of Cylinders 4 No. of Cranks 4
2 Cycle Dia. of Cylinders 17 3/4" Length of Stroke 18 1/2" Revs. per minute 220 Dia. of Screw shaft as per rule 7.6" Material of Steel
as fitted 7-5/8" screw shaft

Is the screw shaft fitted with a continuous liner the whole length of the stern tube No 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 No 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 painted Length of stern bush 2'-7"
 Dia. of Tunnel shaft as per rule 6.6" Dia. of Crank shaft journals as per rule 7.2" Dia. of Crank pin 7.2" Size of Crank webs 10 3/4 x 4 3/4" Dia. of thrust shaft under
as fitted 6-5/8" as fitted 7 1/4" collars Dia. of screw 6 ft. Pitch of Screw 3'-9" No. of Blades 4 State whether moveable No Total surface 7 1/2 sq. ft.

No. of Feed pumps ✓ Diameter of ditto ✓ Stroke ✓ Can one be overhauled while the other is at work ✓
 Hand, Fire & No. of Bilge pumps 1 Diameter of ditto 5" Stroke 5" Can one be overhauled while the other is at work ✓

No. of Donkey Engines two Sizes of Pumps 1 Geared 6" dia. 10" No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room three 3 1/2" In Holds, &c. One 2 1/2"

Also one Smith Vaile Duplex 3" x 2" x 3" feed pump for Donkey Boiler. ✓
 No. of Bilge Injections ✓ sizes ✓ Connected to condenser, or to circulating pump ✓ Is a separate Donkey Suction fitted in Engine room & size Yes 3 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 ✓
ing with lead pipes to outer planking

Are all connections with the sea direct on the skin of the ship no - on ceill Are they Valves or Cocks valves
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates ✓ Are the Discharge Pipes above or below the deep water line above
planking

Are they each fitted with a Discharge Valve always accessible on the planking of the vessel Yes Are the Blow Off Cocks fitted with a spigot and brass covering plate ✓
 What pipes are carried through the bunkers ✓ How are they protected ✓

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and with boiler & auxiliaries 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 Main Deck

DONKEY Separate Report.
 BOILERS, &c.—(Letter for record Manufacturers of Steel)

Total Heating Surface of Boilers Is Forced Draft fitted No. and Description of Boilers
 Working Pressure 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 Area of each valve Pressure to which they are adjusted Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork 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 rivets..... Working pressure of shell by rules Size of manhole in shell

Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter
 Length of plain part top..... Thickness of plates..... crown..... Description of longitudinal joint No. of strengthening rings
bottom..... bottom.....

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

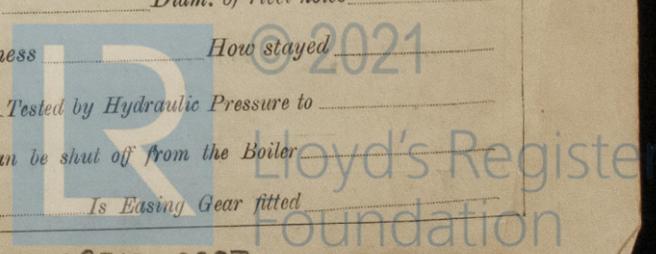
Working pressure by rules Steam dome: description of joint to shell % of strength of joint
 Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes

Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed 2021

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

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THE MARGIN.



IS A DONKEY BOILER FITTED?

Yes

If so, is a report now forwarded?

Yes

SPARE GEAR. State the articles supplied:— 4 Ignition Balls, 1 Ignition Hood with cover, Piston Rings for 2 Pistons, 2 Injection Nozzles complete, 2 Injection Mouth Pieces, 2 Blow Torches, 1 each of all Springs used on Engines, 1 each of all Gaskets used on Engines, 8 Fuel Pump Check Valves, 1 complete set Spanners and Wrenches, 1 Main Piston, 1 set Compressor Valves and Cages, 2 Connecting Rod Bolts and Nuts, 2 Main Bearing Bolts and Nuts, 1 set Coupling Bolts and Nuts, 1 set Fuel, Bilge and Circulating Pump Valves, a lot of assorted Bolts and Nuts.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1919. Feb. 5. Mar. 5, 26. Apr. 4, 16. May 3. Aug. 5, 7, 29. Sept. 4, 10, 17. Oct. 23, Nov. 3. Total No. of visits 14.

Is the approved plan of main boiler forwarded herewith? Yes

Dates of Examination of principal parts: Cylinders Mar. 5 Slides Mar. 5 Covers Mar. 5 Pistons Mar. 5 Rods Mar. 5 Connecting rods Mar. 5 Crank shaft Mar. 5 Thrust shaft Feb. 5 Tunnel shafts Feb. 5 Screw shaft Feb. 5 Propeller May 3 Stern tube Mar. 5 Steam pipes tested Aug. 7 Engine and boiler seatings Feb. 5 Engines holding down bolts Feb. 5 Completion of pumping arrangements Aug. 7 Boilers fixed Sept. 17 Engines tried under steam Completion of fitting sea connections May 3 Stern tube May 3 Screw shaft and propeller May 3 Main boiler safety valves adjusted Thickness of adjusting washers Material of Crank shaft Steel Identification Mark on Do. Material of Thrust shaft Steel Identification Mark on Do. Material of Tunnel shafts Steel Identification Marks on Do. 256 AWL Material of Screw shafts Steel Identification Marks on Do. 265 AWL 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 Yes Is this machinery duplicate of a previous case No If so, state name of vessel

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

The Engines, Crank Shafts and Thrust Shaft were constructed at Augustendal, Sweden, not under survey. They were examined and installed under survey at Portland, Oregon and tried under sea going conditions. The Intermediate and Tail Shafts were forged at San Francisco, Calif. and finished at Portland, Oregon and in accordance with the Rules.

It is submitted that the record of LMC 9-19 Electric Light be made in the Register Book in the case of this vessel.

The amount of Entry Fee ... \$ 15:00 : When applied for, Special ... \$ 150:00 : Nov. 13 1919 Donkey Boiler Fee ... : : When received, Travelling Expenses (if any) \$ 25:00 : Nov. 14 1919

J. H. Yates Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute New York OCT 26 1920

Assigned see P.O. Rpt 603

FRI. FEB 11 1921

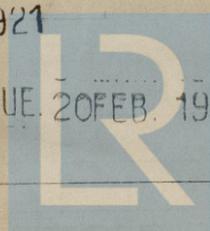
WED. 30 MAR. 1921

FRI. APR. 22 1921

FRI. JUN. 3 1921

TUE. 4 JUL. 1921

TUE. 20 FEB. 1923



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Cms. The Surveyors are requested not to write on or below the space for Committee's Minutes.