

## REPORT ON MACHINERY.

No. 584 per. info from

Blod

Received at London Office

MON 5 - 1920

Date of writing Report Dec. 3 1919 When handed in at Local Office Dec. 6, 1919 Port of Portland, Oregon

No. in Survey held at Portland, Oregon

Date, First Survey Sept. 19, 1919 Last Survey December 1 1919

Reg. Book.

(Number of Visits 21)

on the Steel Single Screw Steamer "CORVUS"

Gross 5748.89

Net 3550.20

Master F. M. Seeley Built at Portland, Ore. By whom built Columbia River S.B. Corp.'n When built 1919

Engines made at Los Angeles, Calif. By whom made Llewellyn Iron Works when made 1919

Boilers made at Portland, Oregon By whom made Columbia River S. B. Corp.'n when made 1919

Indicated

Registered Horse Power 2500 Owners The Green Star S. S. Co. Port belonging to New York

Nom. Horse Power as per Section 28 582 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Shop No. 78

ENGINES, &amp;c.—Description of Engines Triple Expansion

No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 24 1/2" x 41 1/2" x 72" Length of Stroke 48" Revs. per minute 85 Dia. of Screw shaft as per rule 14.37 as fitted 14-7/8" Material of Steel

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 Yes 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 5'0"

Dia. of Tunnel shaft as per rule 13.3 as fitted 13-3/8" Dia. of Crank shaft journals as per rule 13.97 as fitted 14" Dia. of Crank pin 14 3/8" Size of Crank webs 19 1/2" Dia. of thrust shaft under

collars 14" Dia. of screw 17 ft. Pitch of Screw 14 ft. No. of Blades 4 State whether moveable Yes Total surface 90 sq. ft.

No. of Feed pumps two Vertical Simplex Diameter of ditto 10 1/2" x 8" Stroke 20" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 5" Stroke 21" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3 Horizon Sizes of Pumps 12x10x12, 12x8 1/2 x 12 &amp; 6x7x6 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 4 of 3 1/2". In Tunnel 2 of 3 1/2" In Holds, &amp;c. Two in each of 3 1/2"

The Screw Shaft Liner is fitted to three lengths burned together to full depth of Liner

No. of Bilge Injections one sizes 10 1/2" Connected to condenser, or to circulating pump Cir. P. Is a separate Donkey Suction fitted in Engine room &amp; size Two 5"

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 in sea stools Are they Valves or Cocks Valves and Cocks

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 below

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 Vent and Sounding How are they protected Wood Casings

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 Yes Is it fitted with a watertight door Yes worked from Upper Engine Room

MILLERS, &amp;c.—(Letter for record Manufacturers of Steel Illinois Steel Company.

8284 sq. ft. Coal

8780 sq. ft. Oil

Total Heating Surface of Boilers Is Forced Draft fitted Yes No. and Description of Boilers 3 Scotch

Working Pressure 210 lbs. Tested by hydraulic pressure to 315 lbs. Date of tests 10-30-19 Nos of Certificates 153, 154, 155.

Can each boiler be worked separately Yes Area of fire grate in each boiler 65.3 No. and Description of Safety Valves to

each boiler Two 3 1/2" Spring Area of each valve 19.6" Pressure to which they are adjusted 210 lbs. Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 2 ft. Mean dia. of boilers 15'5 1/2" Length 11'0" Material of shell plates Steel

Thickness 1-5/8" Range of tensile strength 60,000 to 71,680 lbs. Hds. Flanged Descrip. of riveting: cir. seams double

Pitch of rivets 10 1/2" Lap of plates or width of butt straps 24" Diameter of rivet holes in long. seams 1-11/16"

Working pressure of shell by rules 239.4 Size of manhole in shell 12" x 16"

Size of compensating ring Flanged No. and Description of Furnaces in each boiler 3 Morrison Material Steel Outside diameter 51-3/8

Length of plain part top 11/16" Thickness of plates crown 11/16" Description of longitudinal joint No. of strengthening rings

Working pressure of furnace by the rules 220.5 Combustion chamber plates: Material Steel Thickness: Sides 11/16" Back 11/16" Top 11/16" Bottom 1"

Pitch of stays to ditto: Sides 7"x8" Back 6-7/8"x7 1/2" Top 9"x8 1/2" If stays are fitted with nuts or riveted heads outside nuts Working pressure by rules 210.25

Material of stays 1 1/2" steel Area at smallest part 2.06 Area supported by each stay 55 " Working pressure by rules 246 " End plates in steam space:

Material steel Thickness 1 1/4" Pitch of stays 18 1/2" x 18" How are stays secured double nuts Working pressure by rules 210.13 Material of stays Steel

Area at smallest part 8.9462 Area supported by each stay 330 sq. in Working pressure by rules 241 Material of Front plates at bottom Steel

Thickness 13/16" Material of Lower back plate Steel Thickness 11/16" Greatest pitch of stays 13 1/2" Working pressure of plate by rules 277 lbs.

Diameter of tubes 3" Pitch of tubes 4-1/8" x 4" Material of tube plates Steel Thickness: Front 13/16" Back 13/16" Mean pitch of stays/tubes 9 1/2"

Pitch across wide water spaces 13 1/2" Working pressures by rules 277 lbs. Girders to Chamber tops: Material Steel Depth and

Thickness of girder at centre 11 1/4" x 1 1/2" Length as per rule 35 1/2" Distance apart 9" Number and pitch of stays in each 30 8-5/8"

Working pressure by rules 238 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

W312-0218

W312-0219



IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

2 Connecting Rod Top End Bolts & Nuts, 2 Do. Bottom and 1 Pair Connecting Rod Brasses, 1 pair Crosshead Brasses, 1 Set Coupling Bolts, 1 Propeller Blade, 1 set Feed and Bilge Pump Valves, 1 set Piston Springs, a quantity of assorted Bolts and Nuts, Iron of various sizes, 40 Condenser Tubes and 80 Ferrules, 12 Boiler Tubes, Springs for Safety & Relief Valves

The foregoing is a correct description,

Columbia River Shipbuilding Corp. per Wm. E. Shaw Chief Engr. Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1919. Sept. 19, 30, October 1, 6, 10, 14, 15, 23, 28, 29, 30, 31. November 8, 13, 17, 21, 22, 24, 26, December 1. Total No. of visits 21. Is the approved plan of main boiler forwarded herewith No

Dates of Examination of principal parts—Cylinders Slides Covers Pistons Rods Connecting rods Crank shaft Nov. 14 Thrust shaft Nov. 14 Tunnel shafts Nov. 8 Screw shaft Oct. 28 Propeller Oct. 15 Stern tube Oct. 15 Steam pipes tested Nov. 17 Engine and boiler seatings Oct. 30 Engines holding down bolts Nov. 17 Completion of pumping arrangements Nov. 13 Boilers fixed Nov. 8 Engines tried under steam Nov. 21 Completion of fitting sea connections Oct. 31 Stern tube Oct. 15 Screw shaft and propeller Oct. 28 Main boiler safety valves adjusted Nov. 17 Thickness of adjusting washers Check Nuts

Material of Crank shaft Steel Identification Mark on Do. 896 JSB Material of Thrust shaft Steel Identification Mark on Do. 896 2207 R.S., 2073 R.S., 2077 R.S., 2076 R.S., 2074 R.S., 2075 R.S. Material of Tunnel shafts Steel Identification Marks on Do. / Material of Screw shafts Steel Identification Marks on Do. 2071

Material of Steam Pipes O. H. Lapwelded Steel Test pressure 630 lbs.

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 No If so, state name of vessel

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

The Triple Expansion Engines have been constructed under Special Survey at Los Angeles, California. The Boilers have been constructed of material tested in accordance with the Rules and have been installed at Portland, Oregon.

It is submitted that the record of L.M.C. 11-19 be made in the Register Book in the case of this Vessel.

It is submitted that this vessel is eligible for THE RECORD L.M.C. 12-19. F.D.

FITTED FOR OIL FUEL 12-19. F.P. ABOVE 150°F.

The amount of Entry Fee ... \$ 15.00 : When applied for, Special ... \$ 164.00 : Dec. 5 1919 Donkey Boiler Fee ... £ : When received, Travelling Expenses (if any) \$ 30.00 : 17/12/19 5/1/20

Committee's Minute New York DEC 16 1919

Assigned + L.M.C. 12-19

Engineer Surveyor to Lloyd's Register of Shipping



© 2019

Lloyd's Register Foundation