

## REPORT ON MACHINERY.

No. 826

Received at London Office

TUE. NOV. 2<sup>nd</sup> 1920

of writing Report 7<sup>th</sup> October 1920 When handed in at Local Office 9<sup>th</sup> October 1920 Port of Vancouver B.C.  
 in Survey held at Vancouver B.C. Date, First Survey 5<sup>th</sup> June Last Survey 2<sup>nd</sup> October 1920  
 Book. on the Steamship "CITY OF VANCOUVER" (Number of Visits 26)  
 Master W. Boyd Built at Vancouver By whom built J. Coughlan & Sons  
 Lines made at Glasgow By whom made Fairfield Shipbuilding & Engineering Co. Ltd. when made Glasgow Report not received to date.  
 made at Vancouver B.C. By whom made Vulcan Iron Works when made 1920  
 Indicated Horse Power 3000 Owners Vancouver Steamship Co. Ltd. Port belonging to Vancouver B.C.  
 Horse Power as per Section 28 520 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

VES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3  
 Cylinders 27"-44"-73" Length of Stroke 48" Revs. per minute 83 Dia. of Screw shaft as per rule 73.9 14.7 Material of steel  
 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 yes  
 propeller boss — If the liner is in more than one length are the joints burned — If the liner does not fit tightly at the part  
 the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive — If two  
 are fitted, is the shaft lapped or protected between the liners — Length of stern bush 5'-2"  
 Tunnel shaft as per rule 73.9 13.33 Dia. of Crank shaft journals as per rule 73.9 14 Dia. of Crank pin 14.5 Size of Crank webs 28.9 Dia. of thrust shaft under  
14.5 Dia. of screw 17.6" Pitch of Screw 18'-6" No. of Blades 4 State whether moveable yes Total surface 95  
 Feed pumps 3 Diameter of ditto 4 Stroke 24" Can one be overhauled while the other is at work yes  
 Bilge pumps 3 Diameter of ditto 4 Stroke 24" Can one be overhauled while the other is at work yes  
 Donkey Engines 1 Sizes of Pumps 10 1/2 x 14 x 24 No. and size of Suctions connected to both Bilge and Donkey pumps  
 Engine Room 2 3 1/2" x 2 1/4" x 4" In Holds, &c. Two 3 1/2" pumps in following No. 1-2-3 & 4  
 Bilge Injections 1 sizes 9" Connected to condenser, or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size two 4"  
 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  
 connections with the sea direct on the skin of the ship yes Are they Valves or Cocks Valves & Cocks  
 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  
 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  
 pipes are carried through the bunkers bilge pipes How are they protected wood covers

U Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes  
 Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes  
 Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Upper Deck in Engine Room

ERS, &c.—(Letter for record 3) Manufacturers of Steel Barnegat steel 62

Heating Surface of Boilers 7743 Is Forced Draft fitted yes No. and Description of Boilers 3 Scotch marine  
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 17-9-20 No. of Certificate 384  
 each boiler be worked separately yes Area of fire grate in each boiler 66.12 No. and Description of Safety Valves to

boiler Two Valves 3 1/2" dia. each Area of each valve 9.621 Pressure to which they are adjusted 180 lbs Are they fitted with easing gear yes  
 least distance between boilers or uptakes and bunkers or woodwork 18" Mean dia. of boilers 15.8 3/4 Length 11.6 Material of shell plates steel

Range of tensile strength 60000 lbs Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double  
 Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 9 3/16" Lap of plates or width of butt straps 19 x 7/8"

Integrities of strength of longitudinal joint 87.4 Working pressure of shell by rules 188.4 Size of manhole in shell 16 x 12"  
 of compensating ring 37 1/2 x 2 1/4 x 1 3/8 No. and Description of Furnaces in each boiler 3 Brighten Material steel Outside diameter 50 1/4"

Thickness of plates 5/8" Description of longitudinal joint — No. of strengthening rings —  
 Working pressure of furnace by the rules 138 Combustion chamber plates: Material steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 1 1/8"

of stays to ditto: Sides 7 1/2" Back 8" Top 9 3/4" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 196

Material of stays steel Area at smallest part 1 5/8" Area supported by each stay 46.87 Working pressure by rules 199 End plates in steam space:  
 Thickness 1 1/8" Pitch of stays 15 x 18" How are stays secured Double nuts Working pressure by rules 202 Material of stays steel

at smallest part 2 1/4" Area supported by each stay 270 Working pressure by rules 202 Material of Front plates at bottom steel  
 Material of Lower back plate steel Thickness 1 3/8" Greatest pitch of stays 13 1/2" Working pressure of plate by rules 199

Pitch of tubes 4 1/4" Material of tube plates steel Thickness: Front 13/16" Back 3/4" Mean pitch of stays 8 1/2"  
 across wide water spaces 13 1/2" Working pressures by rules 183.3 Girders to Chamber tops: Material steel Depth and

less of girder at centre 10 x 3/4" Length as per rule — Distance apart 9 3/4" Number and pitch of stays in each 3 x 7 1/2"  
 Working pressure by rules 250 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 —

ERHEATER. 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 —

8210-550500-449500



IS A DONKEY BOILER FITTED? *no*

If so, is a report now forwarded? ☒

SPARE GEAR. State the articles supplied:—*two connecting rod top and bottom end bolts & nuts, two main bearing bolts and nuts. Six coupling bolts & nuts. One set of fuel and one set of bridge pump valves. Three main and three delivery fuel check valves. Six cylinder and six steam chest cover studs & nuts. Twelve jib ring studs & nuts. One propeller bolt. One H.P. piston valve. A number of condenser tubes & ferrule boiler tubes, white metal, a large assortment of bolts, nuts, rivets, flat washers.*

The foregoing is a correct description,

*John Coughlan & Sons Ltd*

Manufacturer.

Dates of Survey while building { During progress of work in shops - *July 5, 7, 12, 13, 14, 15, 22, Aug 9, 12, 17, 19, 23, 25, 27, 30,*  
During erection on board vessel - *Sept 3, 8, 10, 11, 14, 17, 20, 24, 29, 30, Oct 2,*  
Total No. of visits *26*

Dates of Examination of principal parts—Cylinders *8-9-20 at Glasgow* Slides *8-9-20 at Glasgow* Covers *8-9-20 at Glasgow* Pistons *8-9-20 at Glasgow* Rods *8-9-20 at Glasgow*

Connecting rods *8-9-20 at Glasgow* Crank shaft *8-9-20 at Glasgow* Thrust shaft *14-7-20* Tunnel shafts *14-7-20* Screw shaft *13-7-20* Propeller *23-7-20*

Stern tube *9-8-20* Steam pipes tested *24-9-20* Engine and boiler seatings *14-9-20* Engines holding down bolts *30-9-20*

Completion of pumping arrangements *2-10-20* Boilers fixed *29-9-20* Engines tried under steam *2-10-20*

Completion of fitting sea connections *8-9-20* Stern tube *25-8-20* Screw shaft and propeller *30-8-20*

Main boiler safety valves adjusted *2-10-20* Thickness of adjusting washers *STARBOARD: 27/64, 27/64, 27/64; CENTRE: 3/8, 13/32, 13/32; PORT: 13/32, 13/32, 13/32*

Material of Crank shaft *Steel* Identification Mark on Do. *WQM 543 10-1-18* Material of Thrust shaft *Steel* Identification Mark on Do. *12-5*

Material of Tunnel shafts *Steel* Identification Marks on Do. *220YDS 3094, 3230, 3090, 3092, 3091, 3081, 5-11-20* Material of Screw shafts *Steel* Identification Marks on Do. *12-5*

Material of Steam Pipes *Steel* Identification Marks on Do. *220YDS 3094, 3230, 3090, 3092, 3091, 3081, 5-11-20* Test pressure *540 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 *yes* If so, state name of vessel *SS "Margaret Coughtan"*

General Remarks (State quality of workmanship, opinions as to class, &c. *The engines and boilers of this kind have been built under special survey, installed under special survey and in accordance with approved plans together with auxiliary pumps, mounting fittings & no connections etc.*

*The material and workmanship are of good quality.*

*On completion of machinery installation the vessel was tried under full steam at sea and found satisfactory.*

*Please refer to Glasgow Report on Engine N° 543 built by Fairfield*

*SB & E.C.L. which report (copy) does not appear to have been received at the Office.*

*The safety valves were adjusted under steam.*

*The machinery and boilers are eligible in my opinion to be*

*recorded + LMC 10.20 in the Register Book.*

*It is submitted that*

*this vessel is eligible for*

*THE RECORD. + LMC. 10.20. F.D.*

*Fitted for oil fuel 10.20 F.P. above 150°F.*

*REK 4/11/20*

*Engineer Surveyor to Lloyd's Register of Shipping*

The amount of Entry Fee ... *\$15.00* : When applied for, *9 Oct 1920*

Special ... *\$153.00* : When received, *21.11.20*

Donkey Boiler Fee ... £ : : *21.11.20*

Travelling Expenses (if any) £ : : *21.11.20*

Committee's Minute *TUE NOV. 9 1920*

Assigned *+ LMC 10.20 F.D.*

*Ltd for oil fuel 10.20*

*F.P. above 150°F.*

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