

July 30, 1920

Rpt. 4.

REPORT ON MACHINERY.

No. 813

Completion of Report 22 July 1920 When handed in at Local Office 24 July 1920 Port of Vancouver, B.C. THU AUG 12 1920
 Date of Survey held at Vancouver, B.C. Date, First Survey Sept. 2 1919 Last Survey July 14 1920
 Reg. Book. on the Single Screw S.S. Canadian Inventor (Number of Visits 28)
 Master A. B. Watson Built at Vancouver, B.C. By whom built J. Coughlan & Sons Ltd. Tons { Gross 5497.28
 Engines made at Greenock. By whom made John G. Fincaid & Co. Ltd. when made 1919 Net 3383.75
 Boilers made at Vancouver, B.C. By whom made Vulcan Iron Works Ltd. when made 1920
 Registered Horse Power 3000. Owners Canadian Government Port belonging to Montreal
 Nom. Horse Power as per Section 28 520 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 24" 44" 73" Length of Stroke 48" Revs. per minute 83 Dia. of Screw shaft as per rule 14" 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 length 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'-2"
 Dia. of Tunnel shaft as per rule 13.19 Dia. of Crank shaft journals as per rule 13.99 Dia. of Crank pin 14 1/2 Size of Crank webs 9x28 Dia. of thrust shaft under
 collars 14 1/2 Dia. of screw 17.6 Pitch of Screw 18.0 No. of Blades 4 State whether moveable Yes Total surface 95 sq
 No. of Feed pumps 3 20" Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 3 20" Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work Yes
 No. of 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
 In Engine Room 20 1/2 x 20 1/2 20 1/2 x 20 1/2 in Boiler Room In Holds, &c. 20 1/2 x 3 1/2 in No. 1, 2, & 3 Holds, 14 in all
 No. of Bilge Injections 1 sizes 9" Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size Yes
 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 Yes Are they Valves or Cocks Valves & 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
 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 Bilge Pipes How are they protected Wood Covering
 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 Engine Room

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Illinois Steel Co.
 Total Heating Surface of Boilers 7743 sq ft Is Forced Draft fitted Yes No. and Description of Boilers 3 of Scotch Marine
 Working Pressure 180 lb Tested by hydraulic pressure to 300 lb Date of test Jan 30 1920 No. of Certificate 30
 Can each boiler be worked separately Yes Area of fire grate in each boiler 66.12 sq ft No. and Description of Safety Valves to
 each boiler 20 1/2 in Marine Area of each valve 9.621 Pressure to which they are adjusted 180 lb Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 18" Mean dia. of boilers 15 7/8" Length 11.6 Material of shell plates Steel
 Thickness 1 3/8" Range of tensile strength 60,000 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Double
 long. seams 8 7/4" Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 9 3/4" Lap of plates or width of butt straps 19 7/8"
 Per centages of strength of longitudinal joint rivets 87.4 plate 85.1 Working pressure of shell by rules 188.4 Size of manhole in shell 16 x 13
 Size of compensating ring 37 1/2 x 33 x 1 1/8 No. and Description of Furnaces in each boiler 3 of Doughton Material Steel Outside diameter 50 1/2
 Length of plain part top 7 bottom 7 Thickness of plates crown 1 3/8 bottom 1 3/8 Description of longitudinal joint No. of strengthening rings
 Working pressure of furnace by the rules 188 Combustion chamber plates: Material Steel Thickness: Sides 7/8 Back 7/8 1/2 Top 7/8 Bottom 7/8
 Pitch of stays to ditto: Sides 7 1/2 Back 8 Top 9 If stays are fitted with nuts or riveted heads Yes Working pressure by rules 196
 Material of stays Steel Area at smallest part 2.073 Area supported by each stay 30 Working pressure by rules 240 End plates in steam space:
 Material Steel Thickness 1 1/8 Pitch of stays 15 x 18 How are stays secured Double Working pressure by rules 240 Material of stays Steel
 Area at smallest part 5.936 Area supported by each stay 135 Working pressure by rules 202 Material of Front plates at bottom Steel
 Thickness 1 1/8 Material of Lower back plate Steel Thickness 1 1/8 Greatest pitch of stays 24 x 10 1/2 Working pressure of plate by rules 199
 Diameter of tubes 3 Pitch of tubes 4 1/4 Material of tube plates Steel Thickness: Front 1 1/8 Back 7/4 Mean pitch of stays 8 1/2
 Pitch across wide water spaces 13 1/2 Working pressures by rules 183.3 Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 10 1/2 Length as per rule 2.9 Distance apart 9 Number and pitch of stays in each 30 7 1/2
 Working pressure by rules 250 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

W 1317-0075

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR.

State the articles supplied:

Two Connecting Rod Top & Bottom End Bolts & Nuts. Two Main Bearing Bolts & Nuts Six of Coupling Bolts & Nuts one Set each of Feed & Bilge Pump Valves. Three main & Three Donkey Feed Check Valves. 24 Bolts & Nuts assorted 6 Cylinder 6 Steam Chest Cover Studs & Nuts 12 Junk Ring Studs & Nuts. Quantity of Iron of various sizes 2 Propeller Blades. one H. Piston Valve Condenser Tubes & ferrules. Boiler Tubes. white metal Rivets. Etc. Etc.

The foregoing is a correct description,

J. H. Coughlan & Sons Ltd per J. H. C.

Manufacturer.

Dates of Survey while building { During progress of work in shops -- Sept. 2. Oct. 1. 6. 10. 14. Dec. 2. 18. 23. 31. 1919. Jan. 5. 6. 8. 16. 19. 20. 23. 28. Feb. 6. 13. 23. 24. March 3. 23. 25. 30. April 26. 27. May 6. 7. 10. June 2. 5. 7. 8. 18. July 8. 9. 14. } During erection on board vessel -- } Total No. of visits

Is the approved plan of main boiler forwarded herewith

Copy

Dates of Examination of principal parts—Cylinders March 3/20 Slides March 3/20 Covers March 3/20 Pistons March 3/20 Rods March 3/20

Connecting rods March 3/20 Crank shaft Feb. 6/20 Thrust shaft Feb. 27/20 Tunnel shafts Feb. 13/20 Screw shaft Jan. 27/20 Propeller Jan. 27/20

Stern tube Dec. 2/19 Steam pipes tested Feb. 13/20 Engine and boiler seatings April 26/20 Engines holding down bolts April 26/20

Completion of pumping arrangements March 30/20 Boilers fixed March 3/20 Engines tried under steam

Completion of fitting sea connections Jan. 23/19 Stern tube Jan. 23/19 Screw shaft and propeller

Main boiler safety valves adjusted May 6. 1920 Thickness of adjusting washers 1/32" 1/16" 1/8" 3/16" 1/4" 5/16" 3/8" 7/16" 1/2"

Material of Crank shaft Steel Identification Mark on Do. 1920 1920 1920 1920 1920 1920 1920 1920 1920

Material of Thrust shaft Steel Identification Mark on Do. 1920 1920 1920 1920 1920 1920 1920 1920 1920

Material of Tunnel shafts Steel Identification Marks on Do. 1920 1920 1920 1920 1920 1920 1920 1920 1920

Material of Screw shafts Steel Identification Marks on Do. 1920 1920 1920 1920 1920 1920 1920 1920 1920

Material of Steam Pipes Steel Test pressure 540 lb. p. S. Inch

Is an installation fitted for burning oil fuel Yes 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 Canadian Exporter

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

Vessel have been built under Special Survey and installed under

Special Survey and in accordance with approved plans together

with the Auxiliaries, Pumps, Piping, Mountings & Fittings and

Sea Connections Etc. The Material and Workmanship

are both of Good Quality, on Completion of the Machinery

Installation the Vessel was tried under full Steam at

Sea & found Satisfactory

Please Refer to Glasgow Report No. 17571

Tail Shaft is a continuous Liner

Safety Valves were floated independently under steam pressure

The Machinery & Boilers are eligible in my opinion to have record

+ L.M.C. 7-20 made in the Register Book

The amount of Entry Fee ... \$ 15.00 : When applied for, 24 July 1920
Special ... \$ 153.35 :
Donkey Boiler Fee ... £ 4 :
Travelling Expenses (if any) £ 10.00 : When received, 25 July 1920

Committee's Minute

Assigned

Loan & Co. Ltd

Engineer Surveyor to Lloyd's Register of Shipping.

TUE. 29 MAY. 1923

FRI. 17 JUN. 1921

FRI. 9 MAR. 1923

FRI. SEP. 21 1923

TUE. FEB. 27 1923

WED. 23 APR 1924

FRI. JUL. 16 1923

13 SEP. 1921

TUE. JUL. 12 1921

FRI. 20 JUN 1924

Lloyd's Register Foundation