

REPORT ON MACHINERY.

Date of writing Report *June 17 1920* When handed in at Local Office *June 21 1920* Port of *Vancouver B.C.*
No. in Survey held at *Vancouver B.C.* Date, First Survey *Sept 2/19* Last Survey *June 11 1920*
Reg. Book. *Single Screw S.S. Canadian Prospector* (Number of Visits)
Master *H.S. Helton* Built at *Vancouver B.C.* By whom built *J. Coughlan Sons Ltd* Tons { Gross *5492.19*
Engines made at *Glasgow* By whom made *D. Rowan & Co. Ltd* when made *1919* Net *3380*
Boilers made at *Vancouver B.C.* By whom made *Vulcan Iron Works Ltd* when made *1920* When built *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 *27.44" 73"* Length of Stroke *48*. Revs. per minute *83*. Dia. of Screw shaft *14.1 14.7"* 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 *Long*. 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 *Yes*. If two
liners are fitted, is the shaft lapped or protected between the liners *Yes* Length of stern bush *5'-2"*
Dia. of Tunnel shaft *13.19 13.3"* Dia. of Crank shaft journals *13.99 13.93"* Dia. of Crank pin *14.2"* Size of Crank webs *9x28"* Dia. of thrust shaft under
collars *14.2"* Dia. of screw *17.6"* Pitch of Screw *18-0"* No. of Blades *4* State whether moveable *Yes* Total surface *95.4*
No. of Feed pumps *3 of 2* Diameter of ditto *4.3"* Stroke *24"* Can one be overhauled while the other is at work *Yes*
No. of Bilge pumps *3 of 2* Diameter of ditto *4.3"* Stroke *24"* Can one be overhauled while the other is at work *Yes*
No. of Donkey Engines *one* Sizes of Pumps *10.5 x 14 x 18*. No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room *2 of 3.5" 2 of 4" 2 of 3.5" Boiler Room* In Holds, &c. *2 of 3.5" in 1-2 + 3 Holds*
1 of 4" in Hold & well 1 of 3" in Tunnel & well 14 in all
No. of Bilge Injections *1* sizes *9"* Connected to *condenser*, or to circulating pump *Yes* 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 *above*
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. Ltd*
Total Heating Surface of Boilers *7143.5* 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 *March 12/20* No. of Certificate *32*
Can each boiler be worked separately *Yes* Area of fire grate in each boiler *66.12* No. and Description of Safety Valves to
each boiler *2 of 2 in Marine* Area of each valve *9.62* 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 *15.75"* 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 Riveted Lap*
long. seams *Single Riveted Lap* 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 7/8"*
Per centages of strength of longitudinal joint *87.4* Working pressure of shell by rules *188.4* Size of manhole in shell *16" x 12"*
Size of compensating ring *37 1/2 x 33 x 1 1/2"* No. and Description of Furnaces in each boiler *3 of Doughton* Material *Steel* Outside diameter *50 1/4"*
Length of plain part *top 19.2 bottom 19.2* Thickness of plates *top 1 3/8 bottom 1 3/8* Description of longitudinal joint *Yes* No. of strengthening rings *1*
Working pressure of furnace by the rules *188*, Combustion chamber plates: Material *Steel* Thickness: Sides *7/8"* Back *7/8"* Top *7/8"* Bottom *1 1/16"*
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 1/16"* Pitch of stays *15 x 18* How are stays secured *Double rules* 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 3/16"* Material of Lower back plate *Steel* Thickness *1 3/16"* 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 3/16"* Back *1 1/4"* Mean pitch of stays *8"*
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" 3/4"* Length as per rule *2.9"* Distance apart *9"* Number and pitch of stays in each *3 of 7 1/2"*
Working pressure by rules *250"* Steam dome: description of joint to shell *Yes* % of strength of joint *Yes*
Diameter *Yes* Thickness of shell plates *Yes* Material *Yes* Description of longitudinal joint *Yes* Diam. of rivet holes *Yes*
Pitch of rivets *Yes* Working pressure of shell by rules *Yes* Crown plates *Yes* Thickness *Yes* How stayed *Yes*

SUPERHEATER. Type *Yes* Date of Approval of Plan *Yes* Tested by Hydraulic Pressure to *Yes*
Date of Test *Yes* Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler *Yes*
Diameter of Safety Valve *Yes* Pressure to which each is adjusted *Yes* Is Easing Gear fitted *Yes*

IS A DONKEY BOILER FITTED?

Yes

If so, is a report now forwarded?

Yes

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 Bolt Nuts Assorted. 6 Cylinder & 6 Steam
Check Cover Studs Nuts 12 Link Ring Studs Nuts
Quantity of Iron of various Sizes 2 Propeller Blades one H.P.
Piston Valve, Condenser Tubes & Ferrules. Boiler Tubes. White Metal
Rivets. Etc Etc

The foregoing is a correct description,

J. COUGHLIN & SONS LIMITED

BY John L. Larkham

Manufacturer.

Dates of Survey while building

During progress of work in shops --
During erection on board vessel --
Total No. of visits

Sept. 2, Oct. 1, 6, 10, 14, Dec. 30 1919, 1920, Jan. 16, 23, 30, Feb. 2, 7, 10, 11, 13, 16, 23, 27, March, 12, 25, 29, April 7, 5, 27, 28, May 11, 12, 15, 31, June 10, 11
31 Visits

Is the approved plan of main boiler forwarded herewith

Yes

" " " donkey " " "

Dates of Examination of principal parts—Cylinders May 11/20 Slides May 11/20 Covers May 11/20 Pistons May 11/20 Rods May 11/20

Connecting rods May 11/20 Crank shaft April 27/20 Thrust shaft April 27/20 Tunnel shafts April 27/20 Screw shaft July 7/20 Propeller July 7/20

Stern tube July 7/20 Steam pipes tested May 12/20 Engine and boiler seatings May 18/20 Engines holding down bolts May 18/20

Completion of pumping arrangements May 18/20 Boilers fixed April 27/20 Engines tried under steam June 11/20

Completion of fitting sea connections Feb. 23 1920 Stern tube Feb. 23 1920 Screw shaft and propeller April 5/20

Main boiler safety valves adjusted June 11 1920 Thickness of adjusting washers Port 21/64 Starboard 25/64 7/16 13/32

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. Material of Screw shafts Steel Identification Marks on Do.

Material of Steam Pipes Steel Test pressure 540 lb. sq. in.

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 Importer

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 the

Completion of the Machinery Installation the vessel

was tried under full Steam at Sea and found

Satisfactory.

Please Refer to Glasgow Report No. 39514

Tail Shaft is a continuous Liner

Safety Valves were floated independently

The Machinery and Boilers are eligible in my opinion

to have the Record & L.M.C. 6-20 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. 6.20. F.D.

The amount of Entry Fee ... £15 : 00 : When applied for.

Special ... £153 : 45 : June 21, 1920

Donkey Boiler Fee ... £ : : When received.

Travelling Expenses (if any) £ : : 28/7/20

Machinery Construction Fee per London Survey Letter R Dec. 23 1919.

Committee's Minute

Assigned

MACHINERY CERT. WRITTEN

+ L.M.C. 6.20. F.D.

TUE. 7 NOV. 1922

FRI. 17 NOV. 1922

TUE. 4 OCT. 1921

FRI. OCT. 15 1920

TUE. NOV. 9 1920

TUE. OCT. 19 1920

TUE. NOV. 30 1920

FRI. JAN. 14 1921

FRI. APR. 10 1921

TUE. MAY 24 1921

TUE. JUL. 13 1921