

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 2 DEC 1942

Date of writing Report 5th Oct. 1942 When handed in at Local Office 5th Oct. 1942 Port of Vancouver, B. C.

No. in Survey held at Vancouver, B. C. Date, First Survey August 8th, 1942 Last Survey Sept. 30th 1942
Reg. Book. (Number of Visits 23)

on the Steel Single Screw Steamer "FORT RELIANCE" Tons Gross 7133.51 Net 4243.49

Built at Vancouver, B. C. By whom built Burrard Dry Dock Co. Ltd. Yard No. 145 When built 1942

Engines made at Montreal, P.Q. By whom made Dominion Engineering Wks Engine No. 37 When made 1942

Boilers made at Vancouver, B. C. By whom made Dominion Bridge Co. Ltd. Boiler No. 240, 242 & 244. When made 1942

Registered Horse Power 229 Owners Minister of Munitions & Supply of Canada. Port belonging to

Nom. Horse Power as per Rule 504 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which Vessel is intended General Cargo.

ENGINES, &c.—Description of Engines Triple Expansion. Superheat to 575° F. Revs. per minute 80

Dia of Cylinders 24 1/2" x 37" x 70" Length of Stroke 48" No. of Cylinders 3 No. of Cranks 3

Crank shaft, dia. of journals as per Rule 13.99" as fitted 14 1/4" Crank pin dia. 14 1/4" Crank webs Mid. length breadth -- Thickness parallel to axis 9" & 9 1/2" L.P. 7 1/8" Pin 7 5/8" Journal

Intermediate Shafts, diameter as per Rule 13.33" as fitted 13.5" Thrust shaft, diameter at collars as per Rule 13.99" as fitted 14.25"

Tube Shafts, diameter as per Rule -- as fitted -- Screw Shaft, diameter as per Rule 14.87" as fitted 15.25" Is the tube screw shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule .75" as fitted .78125" Thickness between bushes as per Rule .565" as fitted .68" Is the after end of the liner made watertight in the propeller boss Yes

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner Solid

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 Tight Fit

If two liners are fitted, is the shaft lapped or protected between the liners -- Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft No

Propeller, dia. 18'-6" Pitch 16'-0" mean No. of Blades 4 Material Bronze Length of Bearing in Stern Bush next to and supporting propeller 61" whether Moveable Solid Total Developed Surface 117 sq. ft.

Feed Pumps worked from the Main Engines, No. None Diameter -- Stroke -- Can one be overhauled while the other is at work --

Bilge Pumps worked from the Main Engines, No. Two Diameter 4 1/2" Stroke 26" Can one be overhauled while the other is at work Yes

Feed Pumps (No. and size (Two) 8"x10 1/2"x22" Pumps connected to the Main Bilge Line No. and size Four (One) 10"x12"x10" (One) 9"x6"x10" Two Rams

How driven Steam Worthington Simplex Main Bilge Line How driven Duplex Steam Duplex Steam M.E.

Ballast Pumps, No. and size (One) 10"x12"x10" Lubricating Oil Pumps, including Spare Pump, No. and size None

Are two independent means arranged for circulating water through the Oil Cooler -- Suctions, connected to both Main Bilge Pumps and Auxiliary

Bilge Pumps; In Engine and Boiler Room 1-3" Dia. Port 1-3" Dia. Star in Blr. Rm. 1-3" Dia. Port 1-3" Dia. Star in Eng. Room 1 1/2" Dia. in Thrust Recess. In Pump Room 2 1/2" Dia. in Tunnel well. In Holds, &c. 1-4" Dia. to F.P. 1-3" Dia. P&S to Nos. 1-2-3-4-5 Holds

1-4" Dia. to A.P.

Main Water Circulating Pump Direct Bilge Suctions, No. and size (One) 9" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size (One) 5" Dia. Star side

Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes Yes

Are the Bilge Suctions in the Machinery Space led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes

Are all Sea Connections fitted direct on the skin of the ship Yes. Main Injection fitted to steel tube through D.B. Tank. Are they fitted with Valves or Cocks Valves.

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes Are the Overboard Discharges 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 pass through the bunks. Steel Air Pipes to No. 4 D.B. Tanks How are they protected Steel Straps welded across frames under Limber Boards. Yes

What pipes pass through the deep tanks Bilge Suctions No. 7 D.B. Air Pipes. Have they been tested as per Rule Yes

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

Is the arrangement of Valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one compartment to another Yes Is the Shaft Tunnel watertight Yes Is it fitted with a watertight door No worked from --

MAIN BOILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 7140 Sq. Ft.

Which Boilers are fitted with Forced Draft All Three Which Boilers are fitted with Superheaters All Three

No. and Description of Boilers 3 Single ended Multitubular Working Pressure 220 lbs. per sq. inch.

IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes

IS A DONKEY BOILER FITTED? No If so, is a report now forwarded? --

Can the donkey boiler be used for domestic purposes only --

PLANS. Are approved plans forwarded herewith for Shafting Approved Plans in U.K. Main Boilers Auxiliary Boilers Donkey Boilers

(If not state date of approval) Superheaters Approved Plans in U.K. General Pumping Arrangements Oil fuel Burning Piping Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes

State the principal additional spare gear supplied

As per List forwarded with Vancouver Report No. 5718 - S.S. "FORT ST. JAMES"

The foregoing is a correct description
Burrard Dry Dock Company, Limited

[Signature]
President

Manufacturer.



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Lloyd's Register
Foundation

002232-002240-0138

During progress of work in shops - - See Montreal Report No. 5702
 Dates of Survey while building }
 During erection on board vessel - - - } 1942. Aug. 8, 18, 20, 23, 24, 25, 29 Sept. 1, 2, 3, 4, 5, 9, 12, 15, 21, 22, 23, 24, 25, 26, 28, 30.
 Total No. of visits 23

Dates of Examination of principal parts — Cylinders _____ Slides _____ Covers _____
 Pistons _____ Piston Rods _____ Connecting rods _____
 Crank shaft _____ Thrust shaft September 9th, 1942 Intermediate shafts September 9th, 1942
 Tube shaft _____ Screw shaft August 20th, 1942 Propeller August 23rd, 1942
 Stern tube August 18th, 1942 Engine and boiler seatings August 25th, 1942 Engines holding down bolts September 9th, 1942
 Completion of fitting sea connections August 20th, 1942

See Montreal Report No. 5702

Completion of pumping arrangements September 21st, 1942 Boilers fixed August 29th, 1942 Engines tried under steam September 22nd, 1942
 Main boiler safety valves adjusted September 21st, 1942 thickness of adjusting washers P. Blr. S. 39/64 - 11/16" C. Blr. S. 39/64 - 23/32" S. Blr. S. 37/64 - 35/64"
 Crank shaft material O.H. Steel Identification Mark Lloyd's 3872 A.R. 27-6-42 Thrust shaft material O.H. Steel Identification Mark Lloyd's 5402 T.M. 27-3-42
 Intermediate shafts, material O.H. Steel Identification Marks Lloyd's 5304 T.M. 27-3-42 Lloyd's 5303 T.M. 27-3-42 7000 T.M. 27-3-42 3892 T.M. 26-1-42
 Screw shaft, material O.H. Steel Identification Mark Lloyd's 5550 P.W.W. 3-7-42 Steam Pipes, material S.D. Steel Test pressure 660 lbs. Date of Test Sept, 1942

Is an installation fitted for burning oil fuel No Is the flash point of the oil to be used over 150°F. --
 Have the requirements of the Rules for the use of oil as fuel been complied with --
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo No If so, have the requirements of the Rules been complied with --
 If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with --
 Is this machinery duplicate of a previous case Yes If so, state name of vessel S.S. "FORT ST. JAMES" (Vancouver Report No. 5718).
 General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery of this Vessel has been constructed under Special Survey of the Montreal Surveyors, and installed on board under special survey in accordance with the approved plans, New York letters and otherwise in conformity with the Society's Rules. The materials and workmanship are good and the tests required by the Rules have been satisfactorily carried out. The whole installation has been examined and tested under full working conditions on sea trials and afterwards part opened out, examined and found satisfactory. The machinery has also been surveyed during construction and installation on behalf of Wartime Merchant Shipping, Ltd., to ensure that the terms of the Specifications have been fully complied with and this work has been satisfactorily carried out.

The machinery of this Vessel is eligible in our opinion to be classed in the Register Book with Notation of + L.M.C. 9,42 Screw Shaft C.L. 3 S.E. Blrs. 220 lbs. per sq. inch F.D.

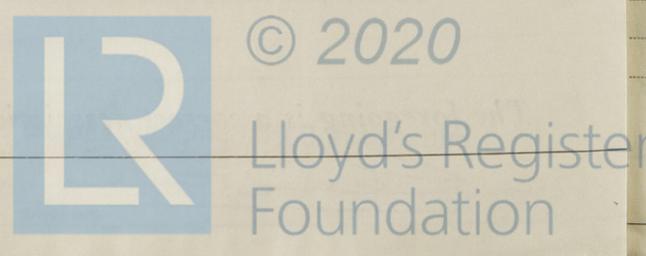
Montreal fees charged in Montreal Rpt. No. 5702

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|---|-------------------------------------|
| The amount of Entry Fee ... £ : | When applied for, |
| Special (Vcr.) ... £ \$133.00 : | <u>29th Sept, 42</u> |
| Donkey Boiler Fee ... £ : | When received, |
| Travelling Expenses (if any) £ \$ 20.00 : | <input checked="" type="checkbox"/> |

RB

W.E. Baillie
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 4 DEC 1942
+ Lamb 10.42
 Assigned JD, CL



Certificate to be sent to
 The Surveyors are requested not to write on or below the space for Committee's Minute.