

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office **2 DEC 1942**

Date of writing Report **23rd. Sept. 42** When handed in at Local Office **23rd. Sept. 42** Port of **Vancouver, B. C.**

No. in Survey held at **Victoria, B. C.** Date, First Survey **6th June, 1942** Last Survey **15th Sept. 1942**

Reg. Book. **---** on the **Steel Single Screw Steamer "FORT LIARD"** (Number of Vents **35**) Tons {Gross **7131.2**
Net **4262.91**

Built at **Victoria, B. C.** By whom built **Victoria Machinery Depot Co. Ltd.** Yard No. **22** When built **1942**

Engines made at **Lachine, P.Q.** By whom made **Dominion Engineering Wks. Ltd.** Engine No. **26** When made **1942**

Boilers made at **Vancouver, B. C.** By whom made **Vancouver Iron Works, Ltd.** Boiler No. **209** 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 **24½"x37"x70"** Length of Stroke **48"** No. of Cylinders **3** No. of Cranks **3**

Crank shaft, dia. of journals as per Rule **13.99"** as fitted **14½"** Crank pin dia. **14½"** Mid. length breadth **---** Thickness parallel to axis **9" & 9½" L.P.**

Intermediate Shafts, diameter as per Rule **13.33"** as fitted **13.5"** Crank webs **---** Mid. length thickness **---** Thickness around eye-hol **7½" Pin**

Tube Shafts, diameter as per Rule **---** as fitted **---** Screw Shaft, diameter as per Rule **14.87"** as fitted **15.25"** Thrust shaft, diameter at collars as per Rule **13.99"** as fitted **14.25"** Thickness around eye-hol **7½" Journal**

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** If so, state type. **---** Length of Bearing in Stern Bush next to and supporting propeller. **61"**

Propeller, dia. **18'-6"** Pitch **16'-0"** No. of Blades **4** Material **Bronze** 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 **4½"** Stroke **26"** Can one be overhauled while the other is at work. **Yes**

Feed Pumps (No. and size **Two - 8"x10½"x22"** Pumps connected to the Main Bilge Line { No. and size **Four (One) 10"x12"x10"** (One) **9"x6"x10"** Two Rams

Pumps (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: **---**

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 Engine Rm. 1-2½" Dia. in Thrust Reccs. 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** Are they fitted with 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 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 bunkers. **Steel Air Pipes to No. 4 D.B. Tanks** How are they protected. **Steel Straps welded across frames under Limber Boards.**

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

PER **[Signature]** Manufacturer.



002232-002240-0116

During progress of work in shops -- See Montreal Report No. 5634
 Dates of Survey while building
 During erection on board vessel -- 1942. - June 6, 11, 15, 19, 23, 24, 25, 28, 30. July 4, 10, 17, 18, 24, 25, 29.
 Aug. 1, 5, 15, 19, 20, 26, 27, 29, 31 Sept. 2, 3, 4, 8, 9, 10, 11, 12, 14, 15.
 Total No. of visits 35

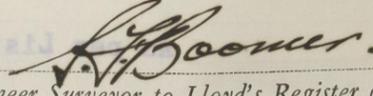
Dates of Examination of principal parts — Cylinders Slides Covers
 Pistons Piston Rods Connecting rods
 Crank shaft July 18th, 1942. Intermediate shafts July 18th, 1942.
 Tube shaft June 24th, 1942. Propeller June 24th, 1942.
 Stern tube June 19th, 1942. Engine and boiler seatings July 25th, 1942 August 5th, 1942 Engines holding down bolts August 5th, 1942.
 Completion of fitting sea connections June 28th, 1942.
 Completion of pumping arrangements Sept. 3rd, 1942 Boilers fixed July 25th, 1942 Engines tried under steam August 26th, 1942 September 12th, 1942
 Main boiler safety valves adjusted September 2nd, 1942 Thickness of adjusting washers P.V. 500" C.Blr. S.V. 625" S.Blr. S.V. 5625" S.Blr. S.V. 375" P.V. 5625"
 Crank shaft material O.H. Steel Identification Mark Lloyd's 3237 H.S. 24-4-42 Thrust shaft material O.H. Steel Identification Mark Lloyd's 5052
 Intermediate shafts, material O.H. Steel Identification Marks (Lloyd's #5377, 5376, 5306, 5383, 5382) Lloyd's 6851 T.M. 16-1-42 H.S. 13-4-42
 Screw shaft, material O.H. Steel Identification Mark Lloyd's 4038 T.M. 1-11-41 Steam Pipes, material S.D. Steel Test pressure 660 lbs. per sq. inch. Date of Test July 24, 1942 Aug. 15, 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 McLEOD" (Ver. Rpt. No. 5776)
 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 installed 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.

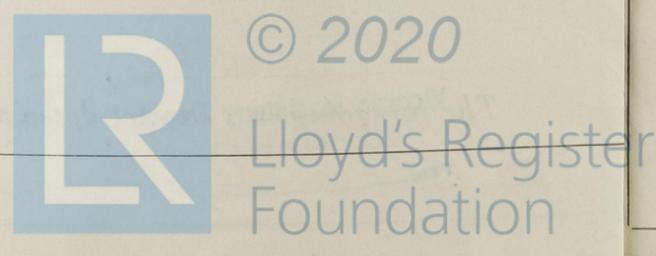
Montreal fees charged in Montreal Rep't. No. 5634

The amount of Entry Fee ... £	:	:	When applied for, 15th Sept. 1942
Special (Ver.) ... £133.00	:	:	
Donkey Boiler Fee ... £	:	:	When received, 19
Travelling Expenses (if any) £\$ 60.00	:	:	


 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE 8 DEC 1942

Assigned *Handwritten initials and date*



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