

## REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

Date of writing Report **14th Dec., 1942** When handed in at Local Office **14th Dec., 1942** Port of **Vancouver, B. C.**

No. in Survey held at **Vancouver, B. C.** Date, First Survey **21st Oct., 1942** Last Survey **7th Dec., 1942**

Reg. Book. (Number of Visits **23**) Tons {Gross **7133.91**  
Net **4244.22**

on the **Steel Single Screw Steamer "FORT YALE"**

Built at **Vancouver, B.C.** By whom built **Burrard Dry Dock Co. Ltd.** Yard No. **151** When built **1942**

Engines made at **Montreal, P.Q.** By whom made **Dominion Engineering Wks.** Engine No. **55** When made **1942**

Boilers made at **Vancouver, B. C.** By whom made **Dominion Bridge Co. Ltd.** Boiler No. **298** 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 **13.99"** as per Rule **14½"** as fitted **14½"** Crank pin dia. **14½"** Crank webs **shrunk** Mid. length breadth **---** Thickness parallel to axis **9" & 9½" L.P.**

Intermediate Shafts, diameter **13.33"** as per Rule **13.5"** as fitted **13.5"** Thrust shaft, diameter at collars **13.99"** as per Rule **14.25"** as fitted **14.25"** Thickness around eye-hole **7½" Pin**

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

Bronze Liners, thickness in way of bushes **.75"** as per Rule **.78125** as fitted **.78125** Thickness between bushes **.68"** 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 **---**

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 {No. and size **Two- 10" x 7" x 24"** Pumps connected to the {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" (Duplex)** 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 Pump Room **1-2" Dia. in tunnel well. In Eng. Rm. 1-2" Dia. in Thrust Recess. 1-4" Dia. to P.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**

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.

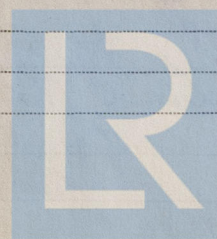
Has the spare gear required by the Rules been supplied **Yes.**

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  
Burrard Dry Dock Company, Limited

Manufacturer.



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Lloyd's Register  
Foundation

W244-0118



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BOTTOM  
of Str  
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During progress of work in shops - - See Montreal Report No.5757

Dates of Survey while building

During erection on board vessel - - 1942.- Oct.- 21,24,26,27. Nov.- 3,4,6,7,9,10,11,12,13,17,25,26,30.  
Dec.- 1,2,3,4,5,7.

Total No. of visits 23

Dates of Examination of principal parts—Cylinders Slides Covers

Pistons Piston Rods Connecting rods

Crank shaft Thrust shaft Nov. 25th, 1942 Intermediate shafts Nov. 25th, 1942

Tube shaft See Montreal Report No.5757. Screw shaft Oct. 26th, 1942 Propeller Oct. 27th, 1942

Stern tube Oct. 24th, 1942 Engine and boiler seatings Nov. 10th, 1942 Engines holding down bolts Nov. 25th, 1942

Completion of fitting sea connections Oct. 24th, 1942

Completion of pumping arrangements Nov. 30th, 1942 Boilers fixed Nov. 12th, 1942 Engines tried under steam Dec. 1st, 1942

Main boiler safety valves adjusted Nov. 30th, 1942 Thickness of adjusting washers P.Blr.S.19/32" C.Blr.S.37/64" S.Blr.S.37/64"

Crank shaft material O.H. Steel Identification Mark HS 9-10-42 Thrust shaft material O.H. Steel Identification Mark WS 9-5-42

Intermediate shafts, material O.H. Steel Identification Marks 8489 AS 26-8-42 8398 AS 13-8-42 8443 AS 20-8-42 8427 AS 18-8-42

Screw shaft, material G.H. Steel Identification Mark AS 1-9-42 Steam Pipes, material S.D. Steel Test pressure 660 lbs. Date of Test Nov. 25th/42

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" (Vcr. Rpt. 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. 12,42 Screw Shaft C.L. 3 S.E. Blrs. 220 lbs. per sq. inch F.D.

Montreal fees charged in Montreal Report No.5757.

The amount of Entry Fee ... £ : : When applied for,

Special (Vcr.) ... £ 133.00 : : 7th Dec., 42

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

Travelling Expenses (if any) £ 20.00 : : 19

Committee's Minute TUE 23 FEB 1943

Assigned J.D., C.L.

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