

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

10 FEB 1944

Date of writing Report **13th Dec., 1943** When handed in at Local Office **13th Dec., 1943** Port of **Vancouver, B. C.**

No. in Survey held at **Vancouver, B. C.** Date, First Survey **11th Sept., 1943** Last Survey **8th Dec., 1943**
Reg. Book (Number of Visits **25**)

on the **Steel Single Screw Steamer "FORT ST. CROIX"** Tons { Gross **7160.44**
Net **4244.62**

Built at **Vancouver, B. C.** By whom built **Burrard Dry Dock Co. Ltd.** Yard No. **193** When built **1943**

Engines made at **Toronto, Ont.** By whom made **John Inglis Co. Ltd.** Engine No. **281** When made **1943**

Boilers made at **Vancouver, B. C.** By whom made **Vancouver Iron Works, Ltd.** Boiler Nos. **560 & 561.** When made **1943**

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

Nom. Horse Power as per Rule **643** 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 450° F.** Revs. per minute **76**

Dia. of Cylinders **24½" x 37" x 70"** Length of Stroke **48"** No. of Cylinders **3** No. of Cranks **3**

Crank shaft, dia. of journals as per Rule **11.99** as fitted **14½"** Crank pin dia. **14½"** Crank webs Mid. length breadth **--** Thickness parallel to axis **9" & 9½" L.P.**

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"** Thickness around eye-hole **(7½" Pin, 7½" Journal)**

Tube Shafts, diameter as per Rule **--** as fitted **--** Screw Shaft, diameter as per Rule **14.87"** as fitted **15.25"** Is the 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 **Continuous**

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** 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) 12" x 8" x 24"** Pumps connected to the Main Bilge Line { No. and size **Four (Two) 10" x 11" x 12"** **Two Rams**

Pumps { How driven **Steam Worthington Simplex** Main Bilge Line { How driven **Duplex-Steam** **M.E.**

Ballast Pumps, No. and size **(One) 10" x 11" x 12" (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: **(One) 3" P&S, (One) 3" Thrust Recess, (One) 2½" tunnel well, (One) 3" P&S**

Deep Tanks. **(One) 2½" P&S after cofferdams.** In Holds, &c. **(One) 3" P&S Nos. 1, 2, 3, 4 & 5 Holds, (One) 5" P&S**

Main Water Circulating Pump Direct Bilge Suctions, No. and size **(One) 10"** Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size **(Two) 5"**

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 **No: to cast steel stands.** Are they fitted with Valves or Cocks **Yes**

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 **Welded**

What Pipes pass through the bunkers **None** How are they protected **--**

What pipes pass through the deep tanks **Bilge, ballast & 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 **--**) Total Heating Surface of Boilers **9704** sq. ft.

Which Boilers are fitted with Forced Draft **Both** Which Boilers are fitted with Superheaters **Both**

No. and Description of Boilers **(Two) Babcock & Wilcox W.T.** Working Pressure **250** lbs. per sq. inch **(Spt. 230 lb.)**

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 17-7-43** Auxiliary Boilers **--** Donkey Boilers **--**

Superheaters **17-7-43** General Pumping Arrangements **6-7-43** Oil fuel Burning Piping Arrangements **9-7-43**

As fitted plan attached. **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. 5942 - S.S. "FORT COLUMBIA"

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

Edward Allan
President

Manufacturer.



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Lloyd's Register
Foundation

011449-011460-0316

March 29th, 1943 and subsequently per British Corporation Report dated 4/10/43 attached herewith.

Dates of Survey while building: During erection on board vessel - 1943. Sept. 11, 13, 20. Oct. 21, 25, 26, 28. Nov. 4, 10, 13, 15, 16, 20, 22, 23, 24. Dec. 1, 2, 3, 4, 6, 7, 8.

Total No. of visits 25

Dates of Examination of principal parts - Cylinders Slides Covers

Pistons Piston Rods Connecting rods

Crank shaft Examined by British Corporation Surveyors. Thrust shaft 26-10-43 Intermediate shafts 26-10-43

Tube shaft Screw shaft 13-9-43 Propeller 13-9-43

Stern tube 11-9-43 Engine and boiler seatings 11-9-43 Engines holding down bolts 26-10-43

Completion of fitting sea connections 11-9-43 Boilers fixed Engines tried under steam 1-12-43

Completion of pumping arrangements 1-12-43 Main boiler safety valves adjusted 1-12-43 Compression F.1-3/16" - 31/32" S.Blr.A.1-3/16" F.1-1/8"

Crank shaft material O.H. Steel Lloyd's 4641 Identification Mark WFM 11-6-43 Thrust shaft material O.H. Steel Lloyd's 5470 Identification Mark EER 15-6-43

Intermediate shafts, material O.H. Steel Lloyd's 5492 Identification Marks EER 18-6-43 5490 EER 17-6-43 5493 EER 19-6-43

Screw shaft, material O.H. Steel Lloyd's 5039 Identification Mark EER 18-6-43 5481 EER 16-6-43 5484 EER 16-6-43

Is an installation fitted for burning oil fuel Yes WEB 28-7-43 Is the flash point of the oil to be used over 150°F. Yes

Have the requirements of the Rules for the use of oil as fuel been complied with Yes

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo Yes If so, have the requirements of the Rules been complied with Yes

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with No

Is this machinery duplicate of a previous case Yes If so, state name of vessel S.S. "FORT COLUMBIA" (Vanc. Report No. 5942)

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

The machinery of this vessel has been constructed under Special Survey of the British Corporation Toronto Surveyors and installed on board under this Society's Special Survey in accordance with 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 trial and afterwards part opened out, examined and found satisfactory. The machinery has also been surveyed during 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.* 12,43 Screw Shaft C.L. 2 - W.T. Blrs. (Spt) 250 lbs. per sq. inch F.D. Fitted for oil fuel 12,43. Flash point above 150°F.

British Corporation Certificate dated 4th October, 1943 attached.

The amount of Entry Fee ... \$ 30.00

Special Br. Corp. \$ 267.00

" L.R. (Vcr.) \$ 133.00

Donkey Boiler Fee ... \$

L.R. (Vcr.) \$ 20.00

Br. Corp. \$ 20.00

Travelling Expenses (if any) \$

When applied for, 14 Dec. 1943

When received, 19

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

Committee's Minute TUES. 15 FEB 1944

Assigned See for machy sp.



Tot S.S.O.F. see Beaman Tark (Ver. 6046)

Certificate to be sent to

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