

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Rpt. 4

8 NOV 1943

Date of writing Report **24th Aug., 1943** When handed in at Local Office **24th Aug., 1943** Port of **Vancouver, B. C.** Received at London Office **15 NOV 1943**

No. in Survey held at **Vancouver, B. C.** Date, First Survey **15th June, 1943** Last Survey **10th July, 1943**

Reg. Book. on the **Steel Single Screw Steamer "FORT ASTORIA"** (Number of Visits **15**)

Built at **Vancouver, B.C.** By whom built **West Coast Shipbuilders, Ltd.** Yard No. **123** Tons **Gross 7188.56 Net 4241.65** When built **1943**

Engines made at **Montreal, P.Q.** By whom made **Canadian Allis-Chalmers, Ltd.** Engine No. **241** When made **1943**

Boilers made at **Vancouver, B. C.** By whom made **Vancouver Iron Works, Ltd.** Boiler No. **(471) (472)** When made **1943**

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

Nom. Horse Power as per Rule **636** 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 Cylinder **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 1/2"** Crank pin dia. **14 1/2"** Crank webs Mid. length breadth **--** Thickness parallel to axis **9" & 9 1/2" L.P.**

Intermediate Shafts, diameter as per Rule **13.33"** as fitted **13.5"** Crank webs Mid. length thickness **--** Thickness around eye-hole **(7 1/8" Pin) (7 5/8" Journal)**

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"**

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"**

Feed Pumps worked from the Main Engines, No. **None** Diameter **--** Stroke **--** whether Moveable **Solid** Total Developed Surface **117** sq. ft.

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 (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"** How driven **Duplex - Steam** Two Rams

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 **Yes** Bilge Pumps;—In Engine and Boiler Room **(One) 3" P&S, (One) 3" Thrust Recess, (One) 2 1/2" tunnel well, (One) 3" P&S**

In Pump Room **For'd & Aft Cofferdams** In Holds, &c. **(One) 3" P&S Nos. 1, 2, 3, 4 & 5 Holds, (One) 4" P&S No. 1 and No. 2 Deep Tanks, (One) 6" P&S No. 3 Deep Tanks.**

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 **(One) 5" P&S**

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.** 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 **Yes**

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 (Sgt. 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**

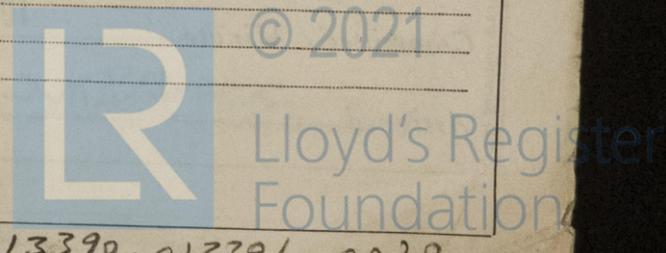
Has the spare gear required by the Rules been supplied **Yes** SPARE GEAR.

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
WEST COAST SHIPBUILDERS LTD.

W. S. M. Lane
General Manager



013390-013396-0029

During progress of work in shops - - See Montreal Report No. 5887.
 1943.
 During erection on board vessel - - June 15,16,17,18,22,26,28. July 1,2,3,4,6,8,9,10.
 Total No. of visits

Dates of Examination of principal parts — Cylinders Slides Covers
 Pistons 5887 Connecting rods
 Crank shaft See Montreal Report No. 5887 Thrust shaft 26-6-43 Intermediate shafts 17-6-43
 Tube shaft Screw shaft 26-2-43 Propeller
 Stern tube 28-4-43 Engine and boiler seatings 16-6-43 & 22-6-43 Engines holding down bolts 16-6-43

Completion of fitting sea connections 15-6-43
 Completion of pumping arrangements 8-7-43 Boilers fixed 28-6-43 Engines tried under steam 4-7-43
 Main boiler safety valves adjusted 8-7-43 Thickness of adjusting washers spring loaded

Crank shaft material O.H. Steel Lloyd's 7532 Identification Mark 17-5-43 HGS Thrust shaft material O.H. Steel Lloyd's 3508 Identification Mark 14-2-43 HGS
 Intermediate shafts, material O.H. Steel Lloyd's 3365 20-2-43 3352 19-2-43 EER 3379 22-2-43 EER 14-5-43
 Screw shaft, material O.H. Steel Lloyd's 3422 26-2-43 EER 3351 19-2-43 EER 3366 20-2-43 EER
 Steam Pipes, material S.D. Steel Test pressure 750 lbs. Date of Test 3-7-43

Is an installation fitted for burning oil fuel Yes 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" (Vcr. Rpt. 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 Montreal Surveyors. Stern tube, screwshaft, propeller and sea connections were installed under British Corporation Survey, but all these parts were manufactured under the inspection of this Society's Surveyors. On the 12th June, 1943, the Classification of this vessel reverted to this Society and all the rest of the machinery was 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. 7,43 Screw Shaft C.L. 2- W.T. Blrs. (Spt.) 250 lbs. per sq. inch F.D.

Fitted for oil fuel 7,43 Flash point above 150°F.

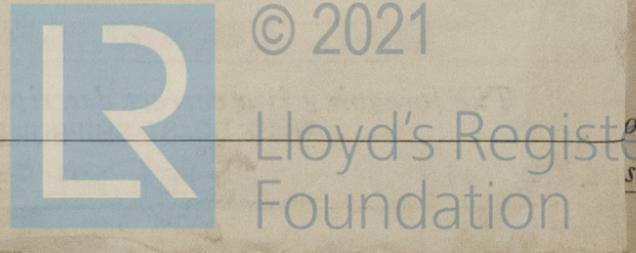
Montreal fees charged in Montreal Report No. 5887.

The amount of Entry Fee ... £	:	:	When applied for,
Special (Vcr.) ... \$133.00	-	:	30 th Aug. 1943
Donkey Boiler Fee ... £	:	:	When received,
Travelling Expenses (if any) \$ 20.00	:	:	19

R. Knox
 Engineer Surveyor to Lloyd's Register of Shipping.

TUES. 7 DEC 1943

Committee's Minute
 Assigned 4 LMC 7.43



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