

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

Date of writing Report **7th January 1943** When handed in at Local Office **7th Jan. 1943** Port of **VANCOUVER, B.C.**
 No. in Survey held at **NORTH VANCOUVER, B.C.** Date, First Survey **9th November 1942** Last Survey **6th January 1943**
 Reg. Book on the **Steel Single Screw Steamer "FORT DREW"** (Number of Visits **30**)
 Built at **North Vancouver B.C.** By whom built **North Van Ship Repairs, Limited** Yard No. **115** When built **1942**
 Engines made at **Montreal, Quebec** By whom made **Canadian Allis-Chalmers Co. Limited.** Engine No. **119** When made **1942**
 Boilers made at **Vancouver, B.C.** By whom made **Vancouver Iron Works, Ltd.** Boiler Nos. **315, 317, 318** When made **1942**
 Registered Horse Power **229** Owners **Minister 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" 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 **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**
 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** 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 (10"x7"x24")** Pumps connected to the Main Bilge Line (No. and size **Four (one) 10x12x10" (one) 9x6x10" Two Rams**
 Pumps (How driven **Steam Worthington Simplex type** Main Bilge Line (How driven **Duplex steam Duplex steam M.E.**
 Ballast Pumps, No. and size **(one) 10x12x10" (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. Starboard Br Rm. 1-3" dia. Port 1-3" dia. Starboard Eng. Rm. 1-2" dia. in Tunnel Well**
 Thrust Access **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. Starbd. 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 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 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 **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 **7,140 square feet**
 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 **in U.K.** Main Boilers **--** Auxiliary Boilers **--** Donkey Boilers **--**
 Superheaters **United Kingdom** 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

W. ORTH VAN SHIP REPAIRS LIMITED
Donald M. Source
Manager

Manufacturer.



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Lloyd's Register Foundation

During progress of work in shops - - SEE MONTREAL REPORT NO. 5778

Dates of Survey while building } During erection on board vessel - - - November-9,10,11,13,16,23,28,30. December-1,3,4,5,7,8,9,10,12,14,15,16,17, December-18,19,21,22,23,24,28,29. January-6

Total No. of visits 30

Dates of Examination of principal parts - Cylinders Slides Covers

Pistons Rods Connecting rods

Crank shaft Thrust shaft 15th December, 1942 Intermediate shafts 15th December, 1942.

Tube shaft Screw shaft 13th November, 1942 Propeller 13th November, 1942.

Stern tube 10th November, 1942 Engine and boiler seatings 3rd December, 1942 Engines holding down bolts 12th December, 1942.

Completion of fitting sea connections 13th November, 1942

Completion of pumping arrangements 19th December/42 boilers fixed 9th December 1942 Engines tried under steam 16th December, 1942

Main boiler safety valves adjusted 16th December, 1942 Thickness of adjusting washers P. 9/16" P. 7/16" P. 31/64" P. 1/8" C. 1/8" S. 7/16" S. 31/64"

Crank shaft material O.H. Steel Identification Mark Lloyd's 5056 6-11-42 HGS Thrust shaft material O.H. Steel Identification Mark Lloyd's 8608 30-10-42 HGS

Intermediate shafts, material O.H. Steel Identification Mark LLOYDS 5670 PW 21-8-42 5639 PW 7-8-42

Screw shaft, material O.H. Steel Identification Mark Lloyd's 8446 5695 PW 4-9-42 5682 PW 28-8-42

Steam Pipes, material S.D. Steel Test pressure 660 lbs. Date of Test 10th Dec. 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 ALEXANDRIA" Vancouver Report No. 5755

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.sq.in F.D.

Montreal fees charged in Montreal Report No. 5778

The amount of Entry Fee ... £	:	:	When applied for,
Special (Vcr) ... \$ 133.00	:	:	29 Dec. 19 42
Donkey Boiler Fee ... \$:	:	When received,
Travelling Expenses (if any) \$ 20.00	:	:	19

[Signature]
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 2 MAR 1943

Assigned *[Signature]* *[Signature]*

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

