

# pt. 4. REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office **52 AUG 1945**

Date of writing Report **March 15, 1945** When handed in at Local Office **Jan. 24, 1945** Port of **Montreal, Que.**

No. in Reg. Book **8,** Survey held at **Montreal, Que.** Date, First Survey **Dec. 22, 1944** Last Survey **Jan. 18, 1945**  
**Constant attendance**  
(Number of Visits.....)

on the **Steel Single Screw Steamer "HIGHLAND PARK"** Tons **Gross 7149.58**  
**Net 4214.21**

Built at **North Vancouver, B.C.** By whom built **North Van Ship Repairs Ltd.** Yard No. **152** When built **1945**

Engines made at **LACHINE, Que.** By whom made **CANADIAN ALLIS-CHALMERS LIMITED** Engine No. **393** When made **1944-45**

Boilers made at ..... By whom made ..... Boiler No. .... When made .....

Registered Horse Power ..... Owners ..... Port belonging to .....

Nom. Horse Power as per Rule **628 505** Refrigerating Machinery fitted for cargo purposes ..... Is Electric Light fitted .....

Trade for which Vessel is intended .....

ENGINES, &c.—Description of Engines **Triple Expansion** Revs. per minute **76**

Dia. of Cylinders **24 1/2" x 37" x 70"** Length of Stroke **48"** No. of Cylinders **3** No. of Cranks **3** **9" & 9 1/2" on L.P.**

Crank shaft, dia. of journals as per Rule **14.21"** Crank pin dia. **14 1/2"** Crank webs Mid. length breadth - shrunken Thickness parallel to axis **7 1/8" & 7 5/8"**  
as fitted **14.25"** Mid. length thickness - Thickness around eye-hole

Intermediate Shafts, diameter as per Rule **13.53"** Thrust shaft, diameter at collars as per Rule **14.21"**  
as fitted **13.5"** as fitted **14.25"**

Tube Shafts, diameter as per Rule - Screw Shaft, diameter as per Rule **15.07"** Is the ~~max~~ shaft fitted with a continuous liner { screw } **Yes**  
as fitted - as fitted **15.25"**

Bronze Liners, thickness in way of bushes as per Rule **.76"** Thickness between bushes as per Rule **.57"** Is the after end of the liner made watertight in the propeller boss **Yes**  
as fitted **.78125"** as fitted **.68125"**

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 **Yes**

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 **4 1/2"** Stroke **26"** Can one be overhauled while the other is at work **Yes**

Feed Pumps (No. and size) Pumps connected to the Main Bilge Line (No. and size) How driven

Ballast Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size

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

In Pump Room In Holds, &c.

Main Water Circulating Pump Direct Bilge Suctions, No. and size Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes

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

Are all Sea Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the Overboard Discharges above or below the deep water line

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate

What Pipes pass through the bunkers How are they protected

What pipes pass through the deep tanks Have they been tested as per Rule

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

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 Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from

MAIN BOILERS, &c.— (Letter for record.....) Total Heating Surface of Boilers

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

No. and Description of Boilers Working Pressure **250 lbs./sq.in.** (~~Spht. 230 lbs./sq.in.~~)

IS A REPORT ON MAIN BOILERS NOW FORWARDED?

IS A DONKEY BOILER FITTED? 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 Main Boilers Auxiliary Boilers Donkey Boilers  
(If not state date of approval)

Superheaters General Pumping Arrangements Oil fuel Burning Piping Arrangements

## SPARE GEAR.

Is the spare gear required by the Rules been supplied

What is the principal additional spare gear supplied

The foregoing is a correct description  
**Canadian Allis-Chalmers Limited**  
By: **L.P. Brady** Manufacturer.



From December 22nd, 1944 to January 18th, 1945. (Constant attendance).

Dates of Survey while building  
 During progress of work in shops - -  
 During erection on board vessel - - -  
 Total No. of visits

Dates of Examination of principal parts—Cylinders 5.1.45 2.1.45 28.12.44 Slides 5.1.45 2.1.45 28.12.44 Covers 5.1.45 2.1.45 28.12.44  
 Pistons 5.1.45 2.1.45 28.12.44 Piston Rods 17.1.45 Connecting rods 4.1.45  
 Crank shaft 18.1.45 Thrust shaft 17.1.45 Intermediate shafts  
 Tube shaft Screw shaft Propeller  
 Stern tube Engine and boiler seatings Engines holding down bolts

Completion of fitting sea connections  
 Completion of pumping arrangements Boilers fixed Engines tried under steam  
 Main boiler safety valves adjusted Thickness of adjusting washers

Crank shaft material O.H. Steel Identification Mark Lloyd's 7036 HGLP.18.1.45 Thrust shaft material O.H. Steel Identification Mark Lloyd's 9 HGLP.17.1

Intermediate shafts, material O.H. Steel Identification Marks Tube shaft, material Identification Mark  
 Screw shaft, material O.H. Steel Identification Mark Steam Pipes, material Test pressure Date of Test

Is an installation fitted for burning oil fuel 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 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

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

This ENGINE has been constructed under Special Survey and in conformity with the Society's Rules and Regulations and Secretary's letters.  
 The scantlings are in accordance with, or equivalent to, those shown on the Approved Plans.  
 The materials and workmanship are good and the H.P., M.P. and L.P. Cylinders were hydrostatically tested to 330, 110 and 30 lbs. pressure per square inch respectively and found sound and tight at those pressures.  
 This ENGINE has now been shipped to VANCOUVER, B. C. for installation and official trials.  
 It is recommended for the favourable consideration of the Committee that the record of L.M.C. (with date) be made in the Register Book, in the case of this vessel, subject to satisfactory installation and trials.

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

The amount of Entry Fee ... \$ 30:00  
 Special ... \$ 267:00  
 Donkey Boiler Fee ... \$ :50  
 Travelling Expenses (if any) \$ 18:00  
 When applied for, 25<sup>th</sup> April 1945  
 When received, 12.6.45  
 VCR.

*Weyl Carter*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI. 10 AUG 1945**  
 Assigned *Sue F.E. machy. rpt.*

