

REPORT ON OIL ENGINE MACHINERY.

Received at London Office

of writing Report 1st Aug., 1949. When handed in at Local Office 2nd Aug., 1949 Port of Halifax, N. S.

Survey held at Shelburne, N. S. Date, First Survey 17-10-48 Last Survey 28-4-49 Number of Visits 7

on the ~~Deck~~ ^{Single} Screw ~~Deck~~ ^{Triple} Wood Motor Vessel "FORT HEARNE" Tons { Gross 382.27 Net 296.60

built at Shelburne, N. S. By whom built John Etherington Limited. Yard No. 10 When built April, 1949

Engines made at Beloit, Wisconsin. By whom made Fairbanks-Morse & Co. Engine No. 922822 When made 3/49

Monkey Boilers made at None By whom made Boiler No. When made

Indicated Horse Power 480 Owners Hudson's Bay Co. Ltd. Port belonging to Montreal.

Indicated Horse Power as per Rule 101 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes

Trade for which Vessel is intended Hudson's Bay Company Trade.

TYPE OF ENGINES, &c.—Type of Engines 8 cylinder / geared 2:1 2 stroke cycle Single or double acting

Maximum pressure in cylinders 585 1150 lb/in² Diameter of cylinders 8 1/2" Length of stroke 11 1/2" No. of cylinders 8 No. of cranks 8

Indicated Pressure 76.6 Brake 100 mhp

Number of bearings, adjacent to the Crank, measured from inner edge to inner edge -- Is there a bearing between each crank --

Revolutions per minute 525 Flywheel dia. 3'-0" Weight 2170 lbs. Means of ignition Compression Kind of fuel used

Crank Shaft, { Solid forged Cast as per Rule 6-15 as fitted 7" Crank pin dia. 7" Crank Webs Mid length breadth 10.25" Thickness parallel to axis --

Intermediate Shafts, diameter as per Rule 4.97" 4.86 as fitted 5 1/2" Thrust Shaft, diameter at collars as per Rule -- as fitted 7"

Propeller Shaft, diameter as per Rule -- as fitted -- Screw Shaft, diameter as per Rule 4.59" 5.16 as fitted 6" Bronze Is the shaft fitted with a continuous liner { No

Bronze Liners, thickness in way of bushes as per Rule -- as fitted 5/8" Thickness between bushes as per Rule None as fitted Fitted 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. Liners not connected.

When 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

When two liners are fitted, is the shaft lapped or protected between the liners. No Is an approved Oil Gland or other appliance fitted at the after end of the tube

Propeller, dia. 76" Pitch 58" No. of blades 3 R.H. Material Cast steel whether Moveable No Total Developed Surface 2300 sq. inches.

Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication

Thickness of cylinder liners See Beloit, Wis. Surveyor Are the cylinders fitted with safety valves. Are the exhaust pipes and silencers water cooled or lagged with

insulating material No If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine Nil

Boiling Water Pumps, No. Two Is the sea suction provided with an efficient strainer which can be cleared within the vessel Nil

Large Pumps worked from the Main Engines, No. 1 Diameter 2 1/4" Stroke 2 1/2" Can one be overhauled while the other is at work No

Pumps connected to the Main Bilge Line { No. and Size 2 - One 2 1/4" x 2 1/2" - one aux. 1 1/2" Cent. How driven Main engine Aux. engine.

Is the cooling water led to the bilges. No If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping

arrangements

Oil Pumps, No. and size Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size Built in. 2" dia.

Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size:—In Machinery Spaces 2 - 2 1/2" In Pump Room

Oil Holds, &c. 2 1/2"

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 - See Aux. 1 1/2" Centrifugal.

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes. Yes Are the Bilge Suctions in the Machinery Spaces

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, as usual practice Are they fitted with Valves or Cocks. Yes

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

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.

How are the pipes protected. --

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. -- 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. No Is it fitted with a watertight door. No worked from --

On a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork. Drip trays fitted.

Number of Air Compressors, No. 1 No. of Stages 1 Diameters 3 1/2" Stroke 7 1/2" Driven by Main engine

Auxiliary Air Compressors, No. 1 No. of Stages 2 Diameters 3 1/2" x 2" Stroke 2 1/2" Driven by V-Belt driven off Aux. engine.

Are all Auxiliary Air Compressors, No. No. of Stages Diameters Stroke Driven by

Is a provision made for first charging the Air Receivers. Aux. Compressor Driven by aux. engine (Hand start)

Refrigerating Air Pumps, No. 1 Diameter Vane Stroke -- Driven by Main engine

Are auxiliary Engines crank shafts, diameter as per Rule 3-3/16" No. Position

as fitted --

Have the Auxiliary Engines been constructed under special survey. No Is a report sent herewith. No

002701-002710-0240

AIR RECEIVERS:—Have they been made under survey YES State No. ~~xxxxxx~~ or Certificate 5879-5882-5883-5907-5910-5970
 Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes
 Can the internal surfaces of the receivers be examined and cleaned No Yes. Is a drain fitted at the lowest part of each receiver Yes

Injection Air Receivers, No. _____ Cubic capacity of each _____ Internal diameter _____ thickness _____
 Seamless, lap welded or riveted longitudinal joint _____ Material _____ Range of tensile strength _____ Working pressure _____ by Rules _____
Starting Air Receivers, No. 6 Total cubic capacity 65.4 Internal diameter 20" thickness .250
~~Seamless, lap welded or riveted longitudinal joint~~ Butt welded Material Steel Range of tensile strength _____ Working pressure _____ by Rules _____
 Actual 250 Lbs.

IS A DONKEY BOILER FITTED? No If so, is a report now forwarded? ---
 Is the donkey boiler intended to be used for domestic purposes only ---

PLANS. Are approved plans forwarded herewith for Shafting 11-12-48 Receivers 20-12-48 Separate Fuel Tanks _____
 (If not, state date of approval) _____
 Donkey Boilers _____ General Pumping Arrangements _____ Pumping Arrangements in Machinery Space _____
 Oil Fuel Burning Arrangements ---

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes
 State the principal additional spare gear supplied Lloyd's spares and extra spares.

The foregoing is a correct description
H. J. Horton
 MANUFACTURER

Dates of Survey while building
 During progress of work in shops - - See surveyor attending at Works. Main engine stamped B.C. G.H.G. Engine No. 922822, dated 4th March, 1949
 During erection on board vessel - - 17-10-48, 23-12-48, 29-1-49, 18-2-49, 23-3-49, 27-4-49, 28-4-49.
 Total No. of visits 7

Dates of Examination of principal parts—Cylinders _____ Covers _____ Pistons _____ Rods _____ Connecting rods _____
 Crank shaft _____ Flywheel shaft _____ Thrust shaft _____ Intermediate shafts _____ Tube shaft _____
 Screw shaft 7-4-49 Propeller 7-4-49 Stern tube _____ Engine seatings 26-3-49 Engines holding down bolts 36
 Completion of fitting sea connections 7-4-49 Completion of pumping arrangements 28-4-49 Engines tried under working conditions 28-4-49
 Crank shaft, Material Cast Iron alloy Identification Mark AB 177 Flywheel shaft, Material _____ Identification Mark _____ DMC 2-8-48 PHF
 Thrust shaft, Material Steel Identification Mark _____ (2) Intermediate shafts, Material O.H. steel Identification Marks M5970 28-1-49 TL
 Tube shaft, Material _____ Identification Mark _____ Screw shaft, Material Bronze Identification Mark See footnote.
 Identification Marks on Air Receivers P.S.T. 3653, P.S.T. 3656, P.S.T. 3705, P.S.T. 3710, P.S.T. 3711, P.S.T. 3081, L.R. 3077, L.R. 3081, L.R. 3080, L.R. 3135, L.R. 3134, L.R. 3129

Is the flash point of the oil to be used over 150° F. Yes
 Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with Yes
 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 No If so, state name of vessel _____

General Remarks (State quality of workmanship, opinions as to class, &c.)
Bronze tail shaft supplied to Fairbanks-Morse & Co. from H. M. Hillman, 188 Flatbush Extension, New York, together with affidavit herewith attached.

This engine, together with shafting, have been constructed under special survey, in accordance with rules and approved plans, and the workmanship is, in my opinion, good. The shaft forgings and castings tested by the undersigned at Trenton Steel Works, Trenton, N. S., and finally examined by him, were found satisfactory. The materials and workmanship are of good quality and the main and auxiliary machinery, pumping arrangements, etc., have been tried under working conditions and found satisfactory. In my opinion, this machinery is suitable for the purpose intended and eligible for the notation M.B.S.# 4,49 T.S. 4,49.

The amount of Entry Fee ... £ : : When applied for,
 Special ... \$285.00 : : May 28, 1949
 Donkey Boiler Fee ... £ : : When received,
 Travelling Expenses (if any) \$ 73.00 : : June 27, 1949

John Lewis
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minutes THU 13 SEP 1951
 Assigned See minutes on fee bill rpl.



Certificate (if required) to be sent to _____
 (The Surveyors are requested not to write on or below the space for Committee's Minutes.)