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## REPORT ON OIL ENGINE MACHINERY.

Received at London Office.

Date of writing Report 12th. July 45 MARCH 9 45 When handed in at Local Office 14th. July 19 45 Port of CHICAGO, ILLINOIS & QUEBEC, P.Q.  
23rd. March 45 12th. July 1945  
JANUARY 11 Last Survey FEBRUARY 28 19 45

No. in Survey held at BELOIT, WISCONSIN & LAUZON, P.Q. First Survey  
Reg. Book. (Quebec - 12 visits) 4

on the Twin Screw vessel "SAULT-AU-MOUTON" Tons { Gross 450.43  
- Triple - Net 236.71  
- Quadruple -

Built at LEVIS, QUEBEC, CANADA By whom built GEORGE T. DAVIE & SONS, LTD. Yard No. 34 When built 1945

Engines made at BELOIT, WISCONSIN By whom made FAIRBANKS MORSE & COMPANY Engine No. 867323 When made 1945

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

Brake Horse Power 200 (EACH) ✓ Owners QUEBEC SALES & TRANSPORTATION CO. Port belonging to QUEBEC, P.Q.

Nom. Horse Power as per Rule 88 (EACH) - Is Refrigerating Machinery fitted for cargo purposes. NO Is Electric Light fitted. YES

Trade for which Vessel is intended MN = 175 PULP WOOD BARGE

OIL ENGINES, &c. Type of Engines VERTICAL MARINE DIESEL 2 or 4 stroke cycle 2 Single or double acting SINGLE?

Maximum pressure in cylinders 700 ✓ Diameter of cylinders 10" ✓ Length of stroke 12 1/2" ✓ No. of cylinders 5 ✓ No. of cranks 5 ✓

Mean Indicated Pressure 56 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 12 5/16" ✓ Is there a bearing between each crank. YES ✓

Revolutions per minute 400 ✓ Flywheel dia. 35" ✓ Weight 1523 LBS. ✓ Means of ignition COMPRESSION Kind of fuel used HEAVY OIL ✓

Crank { Solid forged as per Rule 5.24" ✓ Crank pin dia. 6" ✓ Crank Webs Mid length breadth 8" ✓ Thickness parallel to axis. -

Shaft, { Semi-built dia. of journals as fitted 6" ✓ Mid length thickness 3 3/8" ✓ Thickness around eyehole. -

Flywheel Shaft, diameter as per Rule - Intermediate Shafts, diameter as fitted - Thrust Shaft, diameter at collars as per Rule -

Tube Shaft, diameter as per Rule - Screw Shaft, diameter as fitted 4 1/2" ✓ Is the { screw } shaft fitted with a continuous liner { Yes ✓

Bronze Liners, thickness in way of bushes as per Rule - Thickness between bushes as 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. Yes ✓

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. --

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. Yes ✓ If so, state type Cutless Rubber Bearing. Length of Bearing in Stern Bush next to and supporting propeller 20" ✓

Propeller, dia. 54" ✓ Pitch 36" No. of blades 3 Material Bronze whether Moveable Fixed Total Developed Surface. sq. feet

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

FORCED Thickness of cylinder walls 9/16" Are the cylinders fitted with safety valves. YES Are the exhaust pipes and silencers water cooled or lagged with

non-conducting material. If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine. --

Cooling Water Pumps, No. 2 - 100 GPM (EACH ENG.) Is the sea suction provided with an efficient strainer which can be cleared within the vessel. Yes ✓

Bilge Pumps worked from the Main Engines, No. 1 (EACH ENG.) 2" Stroke 2" Can one be overhauled while the other is at work. YES ✓

Pumps connected to the Main Bilge Line { No. and Size. Two X 2", One X 3" ✓ How driven Main Eng. Aux. diesel Eng. ✓

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. --

Ballast Pumps, No. and size One X 3" ✓ Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 - 20 GPM (EACH ENG.)

Are two independent means arranged for circulating water through the Oil Cooler No Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size: In Machinery Spaces. One X 3", Two X 2" ✓ In Pump Room. --

In Holds, &c. Three X 3" ✓

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size One X 2 1/2" ✓

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

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 all fitted on Stools Are they fitted with Valves or Cocks. Valves ✓

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. --

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 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. -- Is it fitted with a watertight door. -- worked from. --

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork. --

Main Air Compressors, No. 1 (EACH ENG.) No. of Stages. 1 Diameters 6" Stroke 4 1/2" Driven by ECCENTRIC ON CRANK SHAFT

Auxiliary Air Compressors, No. One No. of stages 2 Diameters - Stroke - Driven by Clutch

Small Auxiliary Air Compressors, No. - No. of stages - Diameters - Stroke - Driven by -

What provision is made for first Charging the Air Receivers. Aux. air compressor diesel driven with hand start

Scavenging Air Pumps, No. - Diameter. - Stroke - Driven by -

Auxiliary Engines crank shafts, diameter as per Rule. - Position -

Have the Auxiliary Engines been constructed under special survey. American Bureau ✓ Is a report sent herewith. --

013409-013416-0074



**AIR RECEIVERS:**—Have they been made under survey Yes ✓ State No. of Report or Certificate. 2991 & 2992  
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. 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. - Actual. -  
Starting Air Receivers, No. 2 Total cubic capacity 78.4 Cub.ft. Internal diameter 2'-6" thickness 7/16  
Seamless, lap welded or riveted longitudinal joint. Welded Material O.H.S. Range of tensile strength 59,430 Working pressure by Rules. 253  
65,500 Actual. 250

**IS A DONKEY BOILER FITTED?**

Is the donkey boiler intended to be used for domestic purposes only. SAME AS ENGINE NO.  
**PLANS.** Are approved plans forwarded herewith for Shafting 842658 Receivers - 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 -

The foregoing is a correct description

E. J. Fish, Asst Chief Inspector For Manufacturer.

Dates of Survey while building { During progress of work in shops - - } JAN. 11; FEB. 12, 20, 28, 1945  
{ During erection on board vessel - - - } MARCH 1945, 23. APRIL 9, 21, MAY 5, JUNE 2, 14, 20, 23, 28 JULY 10, 11, 12.  
Total No. of visits TWELVE

Dates of Examination of principal parts—Cylinders FEB. 20-45 Covers DITTO Pistons DITTO Rods - Connecting rods DITTO  
Crank shaft FEB. 12-45 Flywheel shaft - Thrust shaft - Intermediate shafts - Tube shaft -  
Screw shaft 8-6-45 Propeller 23-6-45 Stern tube 2-6-45 Engine seatings 23-3-45 Engines holding down bolts 20-6-45  
Completion of fitting sea connections 10-7-45 Completion of pumping arrangements 11-7-45 Engines tried under working conditions 11-7-45  
Crank shaft, Material O.H. STEEL Identification Mark FEB. 12-45 RR Flywheel shaft, Material - Identification Mark -  
Thrust shaft, Material - Identification Mark - Intermediate shafts, Material - Identification Marks -  
Tube shaft, Material - Identification Mark - Screw shaft, Material - Identification Mark -  
Identification Marks on Air Receivers -

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.)

THE ABOVE MENTIONED DIESEL ENGINES WERE BUILT TO THIS SOCIETY'S SPECIAL SURVEY REQUIREMENTS OF TESTED MATERIALS AND IN ACCORDANCE WITH APPROVED PLANS.

THE ENGINES WERE OPERATED AT LOW, INTERMEDIATE, FULL, AND OVERLOAD BREAK TEST LOADS, UNDER GOVERNOR, CONTROK, WITH SATISFACTORY RESULTS.

THE REVERSING ARRANGEMENTS WERE PROVEN SATISFACTORY. THE WATER JACKETS WERE TESTED AS REQUIRED BY THE RULES. THE MATERIAL AND WORKMANSHIP IS OF GOOD QUALITY.

THE ENGINES ARE BEING FORWARDED TO THE GEORGE T. DAVIE & SONS, LTD. QUEBEC, CANADA, FOR INSTALLATION, AND WHEN THIS IS DONE IN ACCORDANCE WITH THE RULES AND TO THE SATISFACTION OF THIS SOCIETY'S

SURVEYORS, THE MACHINERY WILL BE ELIGIBLE, IN MY OPINION, TO RECEIVE THE NOTATION OF OIL ENG. AND

\* LMC (WITH DATE). The Machinery of this Vessel has now been properly fitted on board & on completion tried under full working conditions & found satisfactory. The Safety Valves of the Compressor & Air Vessels have been adjusted to 250 lbs. & tested. In my opinion this Vessel is eligible for record of LMC 7,45

ATTACHED HEREWITH REPORT 10 & REPORT 7 (FORGING REPORT). Vessel is eligible for record of LMC 7,45

The amount of Entry Fee 15.00 146.66 (U.S.) When applied for, 12-Sept 1945  
Special 21.90 (Chicago fee) 50.25 (Chicago fee) When received, 19  
Installation Eng. 109.50  
Donkey Boiler Fee 109.50  
Travelling Expenses (if any) 45.00 (U.S.)

Committee's Minute

Assigned + LMC 7,45 Oil Eng.  
C.L.

Engineer Surveyor to Lloyd's Register of Shipping.



Lloyd's Register Foundation