

REPORT ON OIL ENGINE MACHINERY

10 JUL 1930

REC'D NEW YORK JUN 25 1930

Date of writing Report May 9 1930 When handed in at Local Office Port of Cleveland, Ohio

No. in Survey held at Cleveland, Ohio Date, First Survey Feb. 14th Last Survey April 3 1930

Reg. Book. Single on the Fore } Scow vessel "LTC No-2" } Tons } Gross 548
Triple } } Net 321
Quadruple }

Built at Tore River, Mass. By whom built Bethlehem S. B. Co. Yard No. 1437 When built 1930

Engines made at Cleveland By whom made Winton Engine Company Engine No. 3735 When made 1930

Donkey Boilers made at ✓ By whom made 3736 Boiler No. 3736 When made 1930

Brake Horse Power 325 (each) Owners LAKE TANKERS CORP Port belonging to WILMINGTON DEL.

Nom. Horse Power as per Rule 142 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted YES

Trade for which vessel is intended INLAND WATERS

OIL ENGINES, Etc. — Type of Engines Winton Diesel-Port & Starboard 2 or 4 stroke cycle 4 Single or double acting S.

Maximum pressure in cylinders 675 lbs. Diameter of cylinders 11" Length of stroke 15" No. of cylinders 6 No. of cranks 6

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 13 1/2" Is there a bearing between each crank Yes

Revolutions per minute 375 Flywheel dia. 60" Weight 5360 lbs. Means of ignition Solid inj Kind of fuel used Diesel oil

Crank Shaft, dia. of journals as per Rule 6.32" Crank pin dia. 7" Crank Webs Mid. length breadth 9 3/8" Thickness parallel to axis as fitted 7" Mid. length thickness 3 7/8" Thickness around eye-hole as fitted

Flywheel Shaft, diameter as per Rule 6.32" Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as per Rule

Tube Shaft, diameter as fitted Screw Shaft, diameter as fitted Is the tube shaft fitted with a continuous liner screw

Bronze Liners, thickness in way of bushes as per Rule Thickness between bushes as per Rule Is the after end of the liner made watertight in the propeller boss ✓

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner ✓

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 ✓

If so, state type Length of Bearing in Stern Bush next to and supporting propeller

Propeller, dia. Pitch No. of blades Material whether Moveable Total Developed Surface sq. feet

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

Thickness of cylinder liners 3/4" Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being siphoned back to the engine ✓

Cooling Water Pumps, No. 106 G.P.M. 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. 2 cyl. D.A. type Diameter Stroke Can one be overhauled while the other is at work ✓

Pumps connected to the Main Bilge Line No. and Size ONE 2 1/2" ROTARY / ONE 3" ROTARY How driven ELECTRIC MOTOR

Ballast Pumps, No. and size ✓ Lubricating Oil Pumps, including Spare Pump, No. and size 26.5 G.P.M. 2 cyl. S. A. type

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 THREE 2 1/2" DIAM. In Pump Room TWO

In Holds, &c. ✓ Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size ONE 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 YES 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 YES

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 NONE 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 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 NONE 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. No. of stages Diameters Stroke Driven by Auxiliary Air Compressors, No. 1 No. of stages TWO Diameters 3 1/4-4" Stroke 4" Driven by MOTOR

Small Auxiliary Air Compressors, No. 1 No. of stages TWO Diameters 2 1/2-3 1/8 Stroke 3" Driven by GASOLINE ENG.

Scavenging Air Pumps, No. ✓ Diameter Stroke Driven by Auxiliary Engines crank shafts, diameter as per Rule SEE ATTACHED REPORT as fitted

AIR RECEIVERS:—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

High Pressure Air Receivers, No. ✓ Cubic capacity of each Internal diameter thickness Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure Actual

Starting Air Receivers, No. Four Total cubic capacity 36 cub. ft. Internal diameter 16" thickness 3/8"

Seamless, lap welded or riveted longitudinal joint L.D.R. Material Steel Range of tensile strength 55,000 Working pressure 400 lbs. Register & copper brazed. lbs. minimum Actual 400 "

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 Yes Receivers No Separate Tanks

Donkey Boilers General Pumping Arrangements 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,

The Winton Engine Co. J. S. Patton Manufacturer.

Dates of Survey of whole building: During progress of work in shops - 1930 Feb. 14, 24, 25, 26, 27, 28 March 5, 11, 13, 24, 26, 31 April 2, 3. During erection on board vessel - APRIL 22, 23, 29 MAY 2, 6, 7, 14, 20, 23, 28. JUNE 3, 5, 9, 10, 12. Total No. of visits 14 & 16

Dates of Examination of principal parts: Cylinders Feb. 14 - Mar. 26 Covers Feb. 14 - Mar. 26 Pistons Feb. 14 - Mar. 26 Rods Connecting rods Feb. 14 - Mar. 26 Crank shaft Mar. 5 & 13 Flywheel shaft Thrust shaft Intermediate shafts Tube shaft

Screw shaft Propeller Stern tube Engine seatings Engines holding down bolts 21-5-30 Completion of fitting sea connections Completion of pumping arrangements Engines tried under working conditions 12-6-30

Crank shaft, Material O.H. Steel Identification Mark Lloyd's 2101-2102 Flywheel shaft, Material Identification Mark Thrust shaft, Material Identification Mark G.D. Intermediate shafts, Material Identification Marks Tube shaft, Material Identification Mark Screw shaft, Material Identification Mark

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 If so, have the requirements of the Rules been complied with If the notation for Ica 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 "LTC. No 1"

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

The above mentioned engines (Port & Starboard) have been built under Special Survey, and on completion were tested under full and intermediate loads in the Shop. The materials and workmanship were found to be sound and efficient. When the engines have been fitted on board the vessel and tried out, to the satisfaction of the Society's surveyors, she will, in my opinion, be eligible for record L.M.C. (with date) in the Register Book. (The engines are intended to be used in connection with the electric system of propulsion)

Enclosed herewith is copy of crank shaft drawing, forging reports Nos. 2101, 2102, also copies of certificates for air receivers Nos. 420, 428, 437, 442.

THESE ENGINES HAVE BEEN FITTED ON BOARD QUALITY OF WORKMANSHIP & MATERIALS GOOD. THEY HAVE BEEN EXAMINED UNDER WORKING CONDITIONS AND FOUND SATISFACTORY, AND IN THE OPINION OF THE UNDERSIGNED ELIGIBLE TO HAVE RECORD OF LMC 6-30 WITH NOTATION "OIL ENGINES CONNECTED TO ELECTRIC MOTOR & SC. SHAFT"

Fee charged as per agreement with Winton Engine Co. Request No. 194.

Table with columns for Fee type (Entry, Special, Donkey Boiler, Travelling Expenses), Amount (£), and When applied/received.

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

TUE. 16 DEC 1930

Committee's Minute

Assigned + LMC 6-30. 2 Oil Engines connected to Elec Motor & Sc. Shafts.

