

REPORT ON OIL ENGINE MACHINERY.

No. P 1849
SEP 11 1937

Date of writing Report **June 2, 1937** When handed in at Local Office **Port of Cleveland, Ohio.**
 No. in Survey held at **Cleveland, Ohio.** Date, First Survey **March 9th,** Last Survey **April 18th 1937**
 Reg. Book. **5314** Number of Visits **9**

on the ~~Screw~~ ~~Twin~~ ~~Screw~~ vessel **M/S "MERCURY"** Tons ^{Gross} 1518.04 _{Net} 1182.00
 Built at **Beaumont, Texas** By whom built **Pennsylvania Shipyards** Yard No. **116** When built **1937**
 Engines made at **Cleveland, Ohio** By whom made **Winton Engine Corp.** Engine No. **5315** When made **1937**
 Donkey Boilers made at **Downingtown, Pa.** By whom made **Downingtown Iron Works** Boiler No. When made
 Brake Horse Power **930** Owners **Cleveland Tankers, Inc.** Port belonging to **Cleveland** Wilmington, Del
 Nom. Horse Power as per Rule **230** Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 Trade for which vessel is intended

OIL ENGINES, &c.—Type of Engines **Winton Model 158-6** 2 or 4 stroke cycle **4** Single or double acting **S**
 Maximum pressure in cylinders **700 lbs.** Diameter of cylinders **14"** Length of stroke **16"** No. of cylinders **6** each engine No. of cranks **6**
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge **16"** Is there a bearing between each crank Yes
 Revolutions per minute **300** Flywheel dia. **36-1/2"** Weight **2000#** Means of ignition **Comp.** Kind of fuel used **Diesel Oil**
 Crank Shaft, dia. of journals as per Rule **7.94"** Crank pin dia. **9"** Crank Webs Mid. length breadth **11"** Thickness parallel to axis
 as fitted **9"** Mid. length thickness **4-1/8"** Thickness around eye-hole
 Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as per Rule
 as fitted as fitted **none** as fitted
 Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule Is the tube shaft fitted with a continuous liner Yes
 as fitted as fitted **7-9/16" to 7-5/8"** as fitted
 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
 as fitted **5/8** as fitted **19/32** 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
 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 **Direct** Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication
Forced Thickness of cylinder liners **15/16"** 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. **1 - 2 cyl. D.A.** Is the sea suction provided with an efficient strainer which can be cleared within the vessel
120 G.P.M.
 What special arrangements are made for dealing with cooling water if discharged into bilges
 Bilge Pumps worked from the Main Engines, No. Diameter Stroke Can one be overhauled while the other is at work
 Pumps connected to the Main Bilge Line No. and Size How driven
 Ballast Pumps, No. and size Power Driven Lubricating Oil Pumps, ~~xxxxxxx~~ **1 - 2 cyl. D.A.**
30 G.P.M.
 Are two independent means arranged for circulating water through the Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge
 Pumps, No. and size:—In Machinery Spaces In Pump Room
 In Holds, &c.
 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 Spaces
 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 platform 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
 If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

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 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. Total cubic capacity Internal diameter thickness
 Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure Actual



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

Is the donkey boiler intended to be used for domestic purposes only No

PLANS. Are approved plans forwarded herewith for Shafting No Receivers No Separate Tanks No
(If not, state date of approval)

Donkey Boilers General Pumping Arrangements Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied No

State the principal additional spare gear supplied

- 2 - Exhaust valves complete with cages and springs, etc.
- 2 - Injection valves complete with cages and springs, etc.
- 3 - Fuel injection valve needles.
- 1 - Starting air valve complete with cage, springs, etc.
- 1 - Set of piston rings for one piston.
- 1 - Set of working parts for one cylinder of fuel pump.
- 1 - Set of working parts for one cylinder of lubricating pump.
- 1 - Wrist pin and bushing.
- 1 - Complete crank pin bearing.
- 2 - Crank pin bearing bolts and nuts.
- 2 - Main bearing bolts and nuts.
- 1 - Set of cylinder studs and nuts for cylinder heads.

The foregoing is a correct description.

Winton Engine Mfg Corp. E.R.B. Manufacturer.

Dates of Survey while building

During progress of work in shops -- During erection on board vessel -- Total No. of visits	<input checked="" type="checkbox"/>	March 9, 12, 17, 20 and 27; April 11, 12, 15 and 18, 1937.
	<input checked="" type="checkbox"/>	
	<input checked="" type="checkbox"/>	

Dates of Examination of principal parts—Cylinders ^{3/9/37} _{3/27/37} to Covers ^{3/9-27/37} Piston ^{3/9-27/37} Rods Connecting rods ^{3/9-27/37}

Crank shaft ^{3/9-17/37} Flywheel shaft Thrust shaft Intermediate shafts Tube shaft

Screw shaft Propeller Stern tube Engine seatings Engines holding down bolts

Completion of fitting sea connections Completion of pumping arrangements Engines tried under working conditions

Crank shaft, Material **O.H. Steel** Identification Mark **LLOYDS 3090 3091 1/12/37** Flywheel shaft, Material Identification Mark

Thrust shaft, Material **O.H. Steel** Identification Mark 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.

Have the requirements of the Rules for oil fuel pipes and tank fittings 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 **M/Y "AVALON" Clv. Rpt. No. 547.**

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

The subject engines have been built under Special Survey and on completion were tested under full and intermediate loads at the Builder's plant. The materials, workmanship and tests were found satisfactory. When the engines have been fitted in the vessel and tried out to the satisfaction of the Society's Surveyor, she will be eligible, in my opinion, for record * LMC (with date) in the Register.

Attached to this report are forging reports Nos. ~~2988~~ 3090 and 3091.

Including Auxiliary Engines

The amount of Entry Fee	..	£	325.50	When applied for,	6/2/1937
Special	...	£	:	When received,	20.10.1937
Donkey Boiler Fee	...	£	:		
Travelling Expenses (if any)	..	£	3.50		

E.D. Drummond

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **NEW YORK SEP 1-1937**

Assigned *See Gal Rpt. 3238*



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