

# REPORT ON OIL ENGINE MACHINERY.

No. 10664

16 JAN 1935

Date of writing Report 12/12/34 When handed in at Local Office 12/12/34 Port of TRIESTE  
 No. in Survey held at PALERMO Date, First Survey 11th October 1934 Last Survey 1st January 1935  
 Reg. Book. 88308 on the Single Screw vessel M.D. "ANTEO" Tons Gross 6771.65  
Triple Net 4036.60  
Quadruple Number of Visits 11

Built at PALERMO By whom built CANTIERI NAVALI RIUNITI Yard No. 111 When built 1934  
 Engines made at TURIN By whom made FIAT STABILIMENTO GRANDI MOTORI Engine No. 1715 When made 1934  
 Boiler No. 4645 When made 1934  
 Boiler No. 4646 When made 1934  
 Brake Horse Power 3200 Owners SOCIETA' LIIGRE DI ARMAMENTO Port belonging to GENOVA  
 Nom. Horse Power as per Rule 915 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes  
 Trade for which vessel is intended OIL TANKER

**ENGINES, &c.** Type of Engines FIAT L. 756 2 or 4 stroke cycle 2 Single or double acting single  
 Maximum pressure in cylinders 35 kg/cm<sup>2</sup> Diameter of cylinders 750 mm Length of stroke 1250 mm No. of cylinders 6 No. of cranks 6  
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 1050 mm Is there a bearing between each crank yes  
 Revolutions per minute 95 Flywheel dia. 3100 mm Weight 14500 kg Means of ignition compression Kind of fuel used DIESEL OIL  
 Crank Shaft, dia. of journals as per Rule 456.4 mm Crank pin dia. 500 mm Crank Webs Mid. length breadth 650 mm Thickness parallel to axis shrunk  
 as fitted 500 mm Mid. length thickness 310 mm Thickness around eye-hole shrunk  
 Flywheel Shaft, diameter as per Rule 456.4 mm Intermediate Shafts, diameter as per Rule 335 mm Thrust Shaft, diameter at collars as per Rule 351.8 mm  
 as fitted 500 mm as fitted 370 mm as fitted 410 mm 440  
 Main Shaft, diameter as per Rule 369.76 mm Is the shaft fitted with a continuous liner yes  
 as fitted 405 mm Is the shaft fitted with a screw yes  
 Bronze Liners, thickness in way of bushes as per Rule 16 mm Thickness between bushes as per Rule 12 mm Is the after end of the liner made watertight in the  
 as fitted 25 mm as fitted 24 mm  
 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 yes  
 If two liners are fitted, is the shaft lapped or protected between the liners yes Is an approved Oil Gland or other appliance fitted at the after end of the tube yes  
 If so, state type yes Length of Bearing in Stern Bush next to and supporting propeller 2000 mm  
 Propeller, dia. 5000 mm Pitch 4300 mm No. of blades 4 Material bronze whether Movable yes Total Developed Surface 8300 sq. feet  
 Method of reversing Engines direct Is a governor or other arrangement fitted to prevent racing of the engine yes Means of lubrication forced  
 Thickness of cylinder liners 55 mm 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 syphoned back to the engine yes  
 Cooling Water Pumps, No. 3 1 duplex 150 tons Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes  
 What special arrangements are made for dealing with cooling water if discharged into bilges discharging overboard  
 Large Pumps worked from the Main Engines, No. 2 Diameter 190 x 190 x 150 mm Stroke 150 mm Can one be overhauled while the other is at work yes  
 Pumps connected to the Main Bilge Line No. and Size 2 duplex 190 x 190 x 150 mm & 1 duplex 254 x 280 x 254 mm  
 How driven steam  
 Ballast Pumps, No. and size 1 duplex 254 x 280 x 254 mm Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 1 duplex 150 x 145 x 150 mm  
 Driven by main engine  
 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 1 @ 82.5 mm; 2 @ 82.5 mm Eng. Coff. off.; 2 @ 76.5 mm Eng. Coff. on; 1 @ 76.5 mm R.P. top In Pump Room 2 @ 76.5 mm  
 Holds, &c. 2 @ 76.5 mm in forward pump room 1 @ 76.5 mm  
 Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 82.5 mm & 1 @ 203 mm from circulating or ballast pump (bilge injection)  
 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 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 yes  
 Do all pipes pass through the bunkers Deep Cofferdam section pipes How are they protected yes  
 Do all pipes pass through the deep tanks yes Have they been tested as per Rule yes  
 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 yes Is it fitted with a watertight door yes worked from yes  
 On a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork yes  
 Main Air Compressors, No. 1 No. of stages 3 Diameters 700/670/150 mm Stroke 920 mm Driven by Main Engine  
 Auxiliary Air Compressors, No. 2 No. of stages 3 Diameters 310/270/70 mm Stroke 250 mm Driven by Steam Engine  
 All Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 90/30 mm Stroke 80 mm Driven by Diesel Engine  
 Reversing Air Pumps, No. 1 Diameter 2 cyl. Tandem 1250 mm Stroke 920 mm Driven by Main Engine  
 Auxiliary Engines crank shafts, diameter as per Rule 70.6 mm See separate Rpt. on Aux. Eng. No. 1  
 as fitted 80 mm Position E.R. starting platform on starboard side

**RECEIVERS:**—Is each receiver, which can be isolated, fitted with a safety valve as per Rule yes  
 Are the internal surfaces of the receivers be examined and cleaned no Is a drain fitted at the lowest part of each receiver yes  
 Pressure Air Receivers, No. 2 Cubic capacity of each 150 litres Internal diameter 291 mm thickness 12.5 mm  
 unless, lap welded or riveted longitudinal joint seamless Material steel Range of tensile strength 46.4-47.6 kg/mm<sup>2</sup> Working pressure 85 kg/cm<sup>2</sup>  
 Actual 80 kg/cm<sup>2</sup>  
 Starting Air Receivers, No. 32 Bottles Total cubic capacity 10944 litres Internal diameter 400 mm thickness 17 mm  
 unless, lap welded or riveted longitudinal joint seamless Material steel Range of tensile strength 44-55 kg/mm<sup>2</sup> Working pressure 83.49 kg/cm<sup>2</sup>  
 Actual 75 kg/cm<sup>2</sup>

IS A DONKEY BOILER FITTED? yes two If so, is a report now forwarded? yes

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

PLANS. Are approved plans forwarded herewith for Shafting ✓ Receivers ✓ Separate Tanks ✓  
(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 yes

State the principal additional spare gear supplied 1 propeller blade, 1 screw shaft (continuous liner) marks: R1, BC 0989 C.R Torino 8-9-33; 1 complete set of comp bolts for intermediate, crank & compressor shafts, 6 Mitchell pads, 1 set of bearing brasses for main engine & compressor with bolts, 1 set of top & bottom ends brasses for main engine & 2 sets for the compressor with their bolts, 1 crosshead complete for main engine & compressor, 2 cylinder covers complete with all valves, 2 complete sets of valves for cylinder cover, of studs & nuts for 2 cylinder covers, 2 pistons complete with rods, 6 sets of piston rings, 2 cylinder liners, 6 tele cooling pipes complete, 1 cylinder liner for each stage of the compressor, 1 compressor cylinder cover complete with valves, 1 H.P. compressor piston, 3 sets of piston rings for compressor, 1 coil for each stage of compressor air cooler; 1 dry cam, rollers, pins, springs & needle for valves & lever; Pipes & flanges; Bolts, studs & nuts. Spare parts for each pump and auxiliary engines on board. Spare parts for electric motors.

The foregoing is a correct description.

N. Pavesani Genoa Manufacturer.

Dates of Survey During progress of work in shops - - Please see Genoa Report No. 13395 dated 18.5.34.  
During erection on board vessel - - 1934 Oct 11, 13, 14, 15, 16, 16 - Nov. 26 - Dec. 2, 3 - 1935 Jan. 1 -  
building Total No. of visits 69 (Genoa) + ?

Dates of Examination of principal parts - Cylinders 10.3.31 Covers 5.5.31 Pistons 15.5.31 Rods 19.12.30 Connecting rods 10.3.31  
Crank shaft 28.7.30 Flywheel shaft 15.10.34 Thrust shaft 15.10.34 Intermediate shafts 15.10.34 Tube shaft ✓  
16.8.30 Screw shaft 16.10.34 Propeller 16.10.34 Stern tube 16.10.34 Engine seatings 15.10.34 Engines holding down bolts 15.10.34

Examine Completion of fitting sea connections 16.10.34 Examine Completion of pumping arrangements 15.10.34 Engines tried under working conditions 11.10.34  
Crank shaft, Material steel Identification Mark 5777 V.Q. 28.7.30. Flywheel shaft, Material steel Identification Mark one piece with  
Thrust shaft, Material steel Identification Mark 539 G.B. 16.8.30. Intermediate shafts, Material steel Identification Marks R1 & BC,  
Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material steel Identification Mark Turin 1.9.34

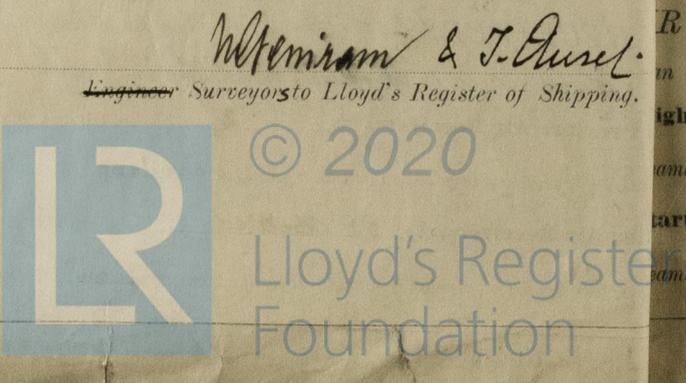
Is the flash point of the oil to be used over 150° F. yes  
Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with yes  
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo oil tanker If so, have the requirements of the Rules been complied with yes  
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 Machinery of this vessel has been constructed under special survey at Turin and fitted on board at Palermo. The thrust, intermediate & screw shafts, although approved (see Sec. letter 23.1.31) were not made under the Society's supervision. These shafts which have been built under the S.D. of the R.I. have been examined and in accordance with the approved plans. An additional bearing has been satisfactorily fitted to the intermediate shaft as amended on the approved plan. - The main & auxiliary engines have been tested under full working condition with factory results. The main engine has also been satisfactorily tested in accordance with Sec. 5 clause b & Sec. 6 clause 1 of the Society's Rules.

With reference to the Sec. letter E 11-10-34, the polished drawn steel air receivers have been examined & found in good order & safe working condition (certificate attached). The suction pipes from the deep cofferdam, have been connected to the oil fuel transfer pumps & the suction pipe to the main bilge line has been removed. Ballast pump C has been connected to the main bilge line. The filling pipes to the oil fuel bunkers have been reduced to 20mm. bore. The valves for supplying steam to the oil fuel transfer, daily service & pressure pumps, fire extinguishing apparatus and at the oil fuel storage tanks are controlled as per Sec. 20 D of the Rules. The remaining requirements of the Rules for the air & overflow pipes having been complied with, it is permitted that the notation of LMC-11.34 be assigned to the machinery of this vessel. - The approved plans forwarded by the Genoa office on the 4-10-34, have been retained in London. The approved plans Nos. G. 5255-1 & 2 on which certain modifications have been pencilled on, are returned herewith.

The amount of Entry Fee ... \$1 : : When applied for, 7/1/1935  
Special ... \$1 : : J.R.  
Donkey Boiler Fee ... \$1 : : When received.  
Travelling Expenses (if any) { Genoa \$1.350- 11-2 1935  
  { Genoa \$900- 11/2

Committee's Minute TUE. 29 JAN 1935  
Assigned 11.36 156  
Orl. by  
CERTIFICATE WRITER



(The Surveys are required not to write on or below the space for Committee's Minute.)