

# REPORT ON OIL ENGINE MACHINERY.

No. 7818

Date of writing Report 12<sup>th</sup> Jan 1928 When handed in at Local Office 12<sup>th</sup> Jan 1928 Port of Trieste Received at London Office 16 JAN 1928

No. in Survey held at 8265 Reg. Book. 8265 on the Single Twin Triple Quadruple Screw vessel "VIRGILIO" Tons Gross 1718 Net 6750

Built at Baia By whom built Artiere ed Officine Meridionale Yard No. 15 When built 1928  
Engines made at Trieste By whom made Stabilimento Tecnico Triestino Engine No. 5106/7 When made 1928  
Donkey Boilers made at Hamburg By whom made Deutsche Werft A. S. Boiler No. — When made on order  
Brake Horse Power — Owners Navigazione Generale Italiana Port belonging to Genoa  
Nom. Horse Power as per Rule 1312 Is Refrigerating Machinery fitted for cargo purposes — Is Electric Light fitted yes  
Trade for which vessel is intended —

**IL ENGINES, &c.**—Type of Engines Burmeister Wain Diesel 2 or 4 stroke cycle 4 Single or double acting Single  
Maximum pressure in cylinders 35 Kgp/cm<sup>2</sup> Diameter of cylinders 740 mm Length of stroke 1300 mm No. of cylinders 16 No. of cranks 16  
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 1004 mm Is there a bearing between each crank yes  
Revolutions per minute 125 Flywheel dia. 2150 mm Weight 5600 Kilos Means of ignition Compression Kind of fuel used Diesel Oil  
Crank Shaft, dia. of journals as per Rule App<sup>d</sup> 487 mm Crank pin dia. 487 mm Crank Webs Mid. length breadth 928 mm Thickness parallel to axis 310 mm  
as fitted 487 mm Mid. length thickness 310 mm Thickness around eye-hole 217 mm  
Flywheel Shaft, diameter as per Rule App<sup>d</sup> 343 mm Intermediate Shafts, diameter as per Rule App<sup>d</sup> 325 mm Thrust Shaft, diameter at collars as per Rule App<sup>d</sup> 343 mm  
as fitted 343 mm as fitted — as fitted 343 mm  
Tube Shaft, diameter as per Rule — Screw Shaft, diameter as per Rule App<sup>d</sup> 375 mm Is the tube shaft fitted with a continuous liner —  
as fitted — as fitted — as fitted —

Bronze Liners, thickness in way of bushes as per Rule App<sup>d</sup> 19 mm Thickness between bushes as per rule 14.25 mm 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 —  
Length of Bearing in Stern Bush next to and supporting propeller —

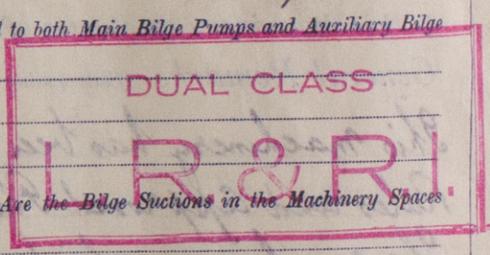
Propeller, dia. 4540 mm Pitch 4170 mm No. of blades 3 Material Bronze whether Moveable yes Total Developed Surface 5.90 sq. feet  
Method of reversing Engines Comp. Air Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication forced  
Thickness of cylinder liners 58.5 to 41 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material both  
If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine led to funnel  
Cooling Water Pumps, No. Two centrifugal 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. Two Diameter 160 mm Stroke 270 mm Can one be overhauled while the other is at work yes  
Pumps connected to the Main Bilge Line { No. and Size Two duplex 300 x 300 mm  
How driven Electric Motor

Ballast Pumps, No. and size Two duplex 300 x 300 mm Lubricating Oil Pumps, including Spare Pump, No. and size Two @ 65 tons per hour  
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 —  
In Holds, &c. —

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size — Are the Bilge Suctions in the Machinery Spaces —  
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes —  
Are they fitted with Valves or Cocks —  
Are they 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 —  
How are they protected —  
Are they each fitted with a Discharge Valve always accessible on the plating of the vessel —  
Have they been tested as per Rule —  
What pipes pass through the bunkers —  
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 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. One Each Engine No. of stages three Diameters 160, 675, 750 mm Stroke 560 mm Driven by Main Eng. C.P.  
Auxiliary Air Compressors, No. Three No. of stages three Diameters 70, 270, 320 mm Stroke 370 mm Driven by Aux. Diesel Engine  
Small Auxiliary Air Compressors, No. One No. of stages two Diameters 34, 106 mm Stroke 80 mm Driven by Steam  
Scavenging Air Pumps, No. None Diameter — Stroke — Driven by —

Auxiliary Engines crank shafts, diameter as per Rule App<sup>d</sup> 204 mm as fitted 204 mm  
**AIR RECEIVERS:**—Is each receiver, which can be isolated, fitted with a safety valve as per Rule yes, on charging line.  
What means are provided for cleaning their inner surfaces accessible for cleaning  
Can the internal surfaces of the receivers be examined yes  
Is there a drain arrangement fitted at the lowest part of each receiver yes  
High Pressure Air Receivers, No. 4 Main & 3 Aux. Cubic capacity of each 2 @ 500 litres Internal diameter 480 mm thickness 24 mm  
3 @ 250 " Internal diameter 360 mm thickness 19 mm  
Seamless, lap welded or riveted longitudinal joint Welded Material Steel Range of tensile strength 36/47 Kgp/cm<sup>2</sup> Working pressure by Rules 65 Kgp/cm<sup>2</sup>  
Seamless Internal diameter 41/47 thickness 26.5 mm  
Starting Air Receivers, No. Two Total cubic capacity 22 m<sup>3</sup> Internal diameter 1953 mm thickness 26.5 mm  
Seamless, lap welded or riveted longitudinal joint Riveted Material Steel Range of tensile strength 44/50.5 Kgp/cm<sup>2</sup> Working pressure by Rules 25 Kgp/cm<sup>2</sup>



IS A DONKEY BOILER FITTED? *Yes.* If so, is a report now forwarded? *No - to be fitted at Genoa.*  
 PLANS. Are approved plans forwarded herewith for Shafting *yes.* Receivers *yes.* Separate Tanks *yes.*  
 Donkey Boilers *no.* General Pumping Arrangements *At Naples* Oil Fuel Burning Arrangements *no.*

SPARE GEAR *remains to be fitted on board at Genoa.*

The foregoing is a correct description,  
**Stabilimento Tecnico**  
**Fabbrica machine S. Andrea, Trieste** Manufacturer.

Dates of Survey while building  
 During progress of work in shops - *1926 Dec 7, 8, 9, 31, 1927 Jan 3, 5, 8, 10, 11, 12, 13, 15, 17, 18, 18, 24, 24, Feb 7, 8, 9, 11, 14, 15, 16, 17, 19, 25, Mar 4, 5, 7, 8, 9, 11, 12, 14, 15, 16, 17, 21, 23, 28, 30, 31, Apr 1, 4, 11, 12, 23, 29, May 4, 5, 6, 9, 9, 10, 11, 13, 16, 18, 20, 23, 25, 26, 27, 28, 30, 31, June 2, 3, 4, 7, 8, 9, 13, 15, 17, 18, 20, 21, 22, 27, 28, July 2, 12, 14, 15, 22, 26, 29, 30, Aug 1, 2, 4, 5, 16, 9, 11, 12, 17, 18, 19, 20, 23, 24, 25, 26, 29, 30, Sep 1, 2, 5, 7, 13, 17, 19, 22, 22, 24, 25, 28, Oct 1, 3, 4, 5, 7, 10, 12, 13, 17, 19, 20, 21, 25, 26, 31, Nov 1, 2, 3, 5, 7, 8, 9, 10, 12, 14, 16, 17, 18, 19, 24, 26, 30, Dec 3, 5, 9, 10, 13, 13, 20, 21, 24, 31, 1928 Jan 4, 5, 7, 9.*  
 Total No. of visits *One hundred and seventy four.*

Dates of Examination of principal parts - Cylinders *4-5-27 to 28-10-27* Covers *17-3-27 to 24-12-27* Pistons *9-7-27 to 5-12-27* Rods *13-6-27 to 14-7-27* Connecting rods *14-7-27 to 11-11-27*  
 Crank shaft *18-7-27 - 5-5-27* Flywheel shaft *24-2-27 - 24-2-27* Thrust shaft *24-2-27 - 24-2-27* 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 *S. M. S.S.* Identification Mark *454 N.G. 455 N.G.* Flywheel shaft, Material *S. M. S.S.* Identification Mark *382 N.G. 383 N.G.*  
 Thrust shaft, Material *S. M. S.S.* Identification Mark *382 N.G. 383 N.G.* 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.*  
 Is this machinery duplicate of a previous case *yes.* If so, state name of vessel *"ORAZIO" Trieste Rpt. No 7596.*

General Remarks (State quality of workmanship, opinions as to class, &c.)  
*This machinery has been constructed under Special Survey in accordance with the Rules and Approved Plans; the materials and workmanship are good. The machinery, which has been forwarded to Genoa to be installed on board the vessel at that port, is eligible, in my opinion, for classification, and to have the record of L.M.C. (with date) when it has been satisfactorily installed on board the vessel and examined under working conditions.*

Trieste Office

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

The amount of Entry Fee ... *here* 558.- : When applied for, 19...  
 4/5 Special ... *here* 9877.- :  
 2/2 No. An Receivers ... *here* 781.- :  
 Donkey Boiler Fee ... £ 781.- :  
 Travelling Expenses (if any) *here* 270.- :  
 Committee's Minute *FRI. 18 MAY 1928*  
 Assigned *See Gen Rpt No 10313*

*H. B. Forster*  
 Engineer Surveyor to Lloyd's Register of Shipping.

