

REPORT ON OIL ENGINE MACHINERY.

No. 8225

Received at London Office

1 JAN 1929

Date of writing Report 10/12 1928 When handed in at Local Office 28/12/28 Port of TRIESTE

No. in Survey held at TRIESTE-MONFALCONE-POLA Date, First Survey 18th Nov. 1926 Last Survey 18th Dec 1928
Reg. Book. 87691 Number of Visits 331

on the Single Twin Triple Quadruple Screw vessel "VULCANIA" Tons Gross 23970
Net 14476

Built at MONFALCONE By whom built CANTIERE NAV. TRIESTINO Yard No. 161 When built 1928

Engines made at TRIESTE By whom made STABILIMENTO TECNICO T. Engine No. 5047 When made 1928

Donkey Boilers made at GLASGOW By whom made BOHRAN & CO. ANNAN LO. Boiler No. 9956 When made 1928

Brake Horse Power 20000 Owners COSULICH SOCIETA TRIESTINA DI NAV. Port belonging to TRIESTE

Nom. Horse Power as per Rule 3379 Is Refrigerating Machinery fitted for cargo purposes YES. Is Electric Light fitted YES.

Trade for which vessel is intended N. Atlantic

IL ENGINES, &c. Type of Engines BUAEMEISTER & WAIN DIESEL 2 or 4 stroke cycle 4 Single or double acting DOUBLE

Maximum pressure in cylinders 35 1/2 lb/cm² Diameter of cylinders 840 Length of stroke 1500 No. of cylinders 16 No. of cranks 16

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 1170 Is there a bearing between each crank YES.

Revolutions per minute 125 Flywheel dia. 2800 Weight 9700 lbs. Means of ignition COMPRESSION Kind of fuel used DIESEL OIL

Crank Shaft, dia. of journals as per Rule APP. 570 Crank pin dia. 570 Crank Webs Mid. length breadth 1076 Thickness parallel to axis 358

Flywheel Shaft, diameter as per Rule APP. 570 Intermediate Shafts, diameter as per Rule APP. 456 Thrust Shaft, diameter at collars as per Rule APP. 480

Tube Shaft, diameter as per Rule --- Screw Shaft, diameter as per Rule APP. 508 Is the shaft fitted with a continuous liner YES.

Bronze Liners, thickness in way of bushes as per Rule 24 Thickness between bushes as per Rule 19 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 ONE LENGTH

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 FIT WHOLE LENGTH

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 ---

Propeller, dia. 5300 Pitch 5400 No. of blades 4 Material BRONZE whether Moveable NO Total Developed Surface 10.20 sq. feet

Method of reversing Engines COMP. AIR. Is a governor or other arrangement fitted to prevent racing of the engine YES. Means of lubrication FORGED

Thickness of cylinder liners 56 Are the cylinders fitted with safety valves YES. Are the exhaust pipes and silencers water cooled or lagged with non-conducting material LAPPED.

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. 2 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. NONE Diameter --- Stroke --- Can one be overhauled while the other is at work ---

Pumps connected to the Main Bilge Line No. and Size Two duplex 300x300 (150T each) One duplex 300x350 (250T) Four aux.

How driven trifurcal 400 T each. in Electric motors

Ballast Pumps, No. and size Two duplex 300x350 Lubricating Oil Pumps, including Spare Pump, No. and size 4 CENTR. EACH 200 TON. PER. H.

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 3 @ 3 1/2", 4 @ 4", Tunnel 3 @ 3 1/2", 3 @ 4"

In Holds, &c. No. 1-2 @ 3 1/2", No. 2-2 @ 4", No. 3-2 @ 4", No. 4-2 @ 3 1/2" & 2 @ 4", No. 5-2 @ 4", No. 6-2 @ 3" Deck H-2 @ 3"

Valve Station 2 @ 3 1/2" Refrig. Space 2 @ 2" Floor 1 @ 2" Deck at Rail 1 @ 3 1/2" 4 Cofferdams 6 @ 3 1/2"

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2 @ 12 1/2", 2 @ 10", 2 @ 4"

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

Are they sized 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 BELOW.

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.

What pipes pass through the bunkers --- How are they protected --- Have they been tested as per Rule ---

What pipes pass through the deep tanks --- 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 BECK & BRIDGE.

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. THREE No. of stages THREE Diameters 192.775.860 Stroke 400 Driven by AVK DIESEL ENG.

Auxiliary Air Compressors, No. TWO No. of stages THREE Diameters 134.540.600 Stroke 390 Driven by AVK DIESEL ENG.

Small Auxiliary Air Compressors, No. ONE No. of stages TWO Diameters 24.106 Stroke 80 Driven by STEAM ENGINE.

scavenging Air Pumps, No. NONE Diameter --- Stroke --- Driven by ---

Auxiliary Engines crank shafts, diameter as per Rule APP. 334 as fitted 334

RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule YES. ON CHARGING LINE

Can the internal surfaces of the receivers be examined YES. What means are provided for cleaning their inner surfaces ACCESSIBLE FOR CLEANING.

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 250 LITRES Internal diameter 440 thickness 24

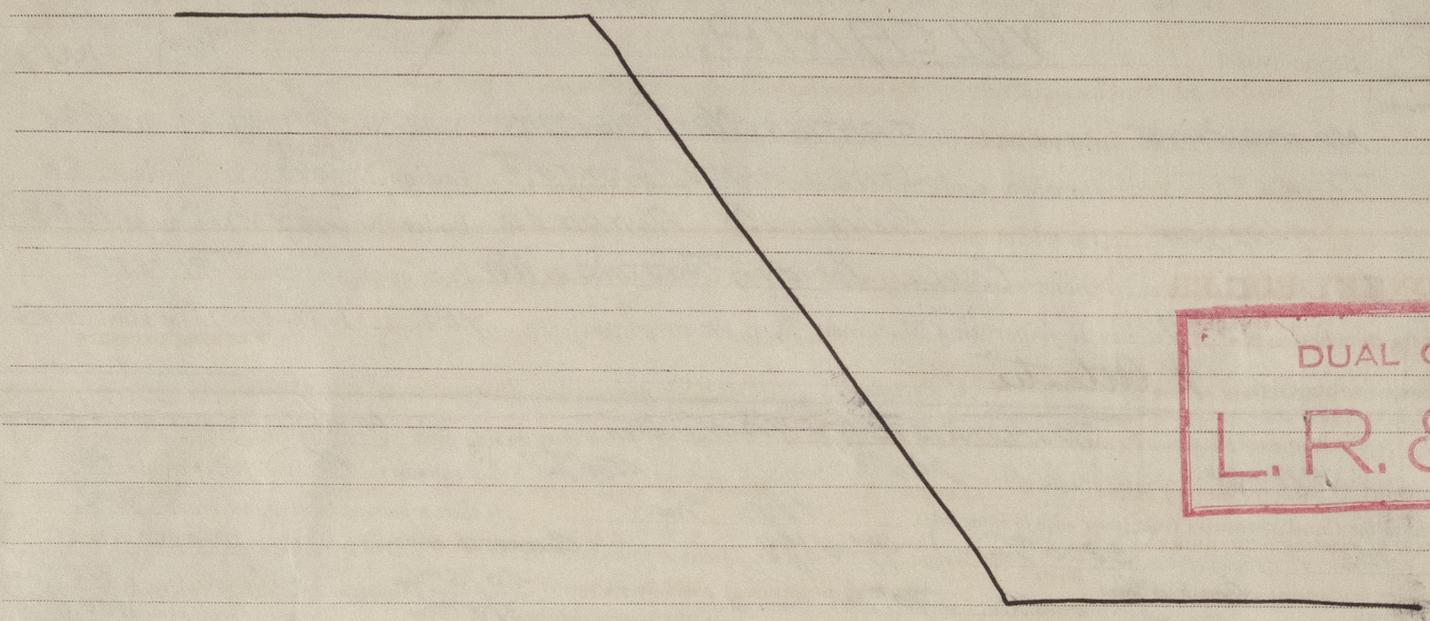
Seamless, lap welded or riveted longitudinal joint WELDED SEAMLESS Material STEEL Range of tensile strength 36/45 kg/cm² Working pressure by Rules 65 kg/cm²

Starting Air Receivers, No. TWO MAIN FOUR AUX Total cubic capacity 93 CM. Internal diameter 2259 thickness 29.5

Seamless, lap welded or riveted longitudinal joint RIVETED Material STEEL Range of tensile strength 46/52 kg/cm² Working pressure by Rules 95 kg/cm²

IS A DONKEY BOILER FITTED? YES. If so, is a report now forwarded? YES GL. REP. No 44622446
 PLANS. Are approved plans forwarded herewith for Shafting YES. Receivers YES. Separate Tanks YES.
 Donkey Boilers YES. General Pumping Arrangements YES. Oil Fuel Burning Arrangements -

SPARE GEAR SEE ATTACHED LIST.



DUAL CLASS
L.R. & R.I.

The foregoing is a correct description,

Murray Manufacturer.

Dates of Survey while building
 During progress of work in shops - -
 During erection on board vessel - -
 Total No. of visits 331
See attached list.

Dates of Examination of principal parts—Cylinders 18.6.27 Covers 24.3.27 Pistons 2.4.27 Rods 22.9.25 Connecting rods 19.1.27
 Crank shaft 21.7.28 Flywheel shaft 21.7.28 Thrust shaft 4.11.27 Intermediate shafts 4.11.27 Tube shaft -
 Screw shaft 27.11.26 Propeller 27.11.26 Stern tube 27.11.26 Engine seatings 7.10.27 Engines holding down bolts 5.10.28
 Completion of fitting sea connections 31.11.28 Completion of pumping arrangements 7.12.28 Engines tried under working conditions 25.11.28
 Crank shaft, Material S.M. STEEL Identification Mark 295-173-513-12.2.27 Flywheel shaft, Material S.M. STEEL Identification Mark 314-16.11.26 N.G.
 Thrust shaft, Material S.M. STEEL Identification Mark 362-11.2.27 N.G. Intermediate shafts, Material S.M. STEEL Identification Marks 897, 8, 9-304, 5-313, 320, 21, 22-343-263, 401, 2, 3-437, 8 N.G.
 Tube shaft, Material - Identification Mark - Screw shaft, Material S.M. STEEL Identification Mark 233-241-N.G.
 Is the flash point of the oil to be used over 150° F. YES. SPARE " " " S.M. STEEL " " 313-427-N.G.

Is this machinery duplicate of a previous case YES. If so, state name of vessel M/S. SATURNIA.

General Remarks (State quality of workmanship, opinions as to class, &c.)
The machinery of this vessel has been constructed under special survey in accordance with the Rules and the approved plans. The material and workmanship are good. Superchargers are fitted.

The machinery has been efficiently installed on board the vessel, Examined under full working condition and found satisfactory, and is eligible, in our opinion for classification and to have the RECORD + L.M.C. - 12.28 in the Register Book.

Fleet Office

The amount of Entry Fee £100 = 600.-
 Special ... £20,968.-
 Donkey Boiler Fee £2,103.-
 Travelling Expenses (if any) 893.-
 Committee's Minute 290.-

When applied for, 19
 When received, 14.3.29
 M. Forsterlor, *Proprietor*
 Engineer Surveyor to Lloyd's Register of Shipping.

Assigned

L.M.C. 12.28 Oil Engines
25B 100lb



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Foundation

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