

5 NOV 1927

REPORT ON OIL ENGINE MACHINERY.

No. 1506

24 JAN 1927

of writing Report 22 January 1927 When handed in at Local Office 22 January 1927 Port of *Nantes*
 in Survey held at *St. Nazaire* Date, First Survey 13 February 1925 Last Survey 13 January 1927
 Hook 6-7-21 Single { Screw *oil engine vessel* "ITAPAGE"
 468 on the Tonnage {
 at *Rouen* By whom built *Ch. d'Atel de St. Nazaire* Yard No. *p5* When built 1927
 ines made at *St. Nazaire* By whom made *Ch. d'Atel de St. Naz. (Penhoët)* Engine No. *p5* When made 1927
 Boilers made at *St. Nazaire* By whom made *Ch. d'Atel de St. Naz. (Penhoët)* Boiler No. *1205/6* When made 1926
 Horse Power Owners *Companhia Nacional Navegacao Costeira* Port belonging to *Rio de Janeiro*
 Horse Power as per Rule 714 Is Refrigerating Machinery fitted for cargo purposes *Yes* Is Electric Light fitted *Yes*

ENGINES, &c. Type of Engines *Diesel - Burmeister & Wain type* 2 or 4 stroke cycle *4* Single or double acting *Single*
 mean pressure in cylinders *35 Kg. cm²* No. of cylinders *6 x 2* Diameter of cylinders *630 mm* No. of cranks *6 x 2* Length of stroke *1.100 mm*
 of bearings, adjacent in the Crank, measured from inner edge to inner edge *892 mm* Is there a bearing between each crank *Yes*
 revolutions per minute Flywheel dia. *2.620 mm* Weight *8300 Kg.* Means of ignition *Compression* Kind of fuel used *Diesel*
 k Shaft, dia. of journals as per Rule *388.6* Crank pin dia. *390* Crank Webs Mid. length breadth *shrunk* Thickness parallel to axis *266*
 as fitted *390* Mid. length thickness *shrunk* Thickness around eye-hole *172*
 Wheel Shafts, diameter as per Rule *388.6* Intermediate Shafts, diameter as per Rule *256.4* Thrust Shaft, diameter at collars as per Rule *269*
 as fitted *390* as fitted *264* as fitted *292*
 Shafts, diameter as per Rule *291.4* Is the { tube { screw } shaft fitted with a continuous liner { *No*
 as fitted *300*
 e Liners, thickness in way of bushes as per Rule *as fitted* Thickness between bushes as per rule *as fitted* Is the after end of the liner made watertight in the
 or base *Yes* If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner *Yes*
 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*
 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
 the tube shaft *Yes* *Redwood* Length of Bearing in Stern Bush next to and supporting propeller *1.200*
 Her, dia. *3500* Pitch *3.380* No. of blades *4* Material *Stone Bronze* whether Movable *No.* Total Developed Surface *4.116* sq. m.
 d of reversing Engines *Reversing gear* Is a governor or other arrangement fitted to prevent racing of the engine when declutched *Hydraulic* Means of lubrication
 d Thickness of cylinder liners *46 to 36* Are the cylinders fitted with safety valves *Yes* Are the exhaust pipes and silencers water cooled or lagged with
 lating 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 *Yes*
 Water Pumps, No. Is the sea suction provided with an efficient strainer which can be cleared within the vessel
 Pumps fitted to the Main Engines, No. *1 each eng.* Diameter *160 mm* Stroke *196 mm* Can one be overhauled while the other is at work *Yes*
 connected to the Main Bilge Line { No. and Size
 How driven
 Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size
 independent means arranged for circulating water through the Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge
 No. and size:—In Engine and Boiler Room
 etc.
 gent Power Pump Direct Suctions to the Engine Room Bilges, No. and size
 the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Are the Bilge Suctions in the Machinery Space
 easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges
 ea Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks
 need 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
 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
 as pass through the bunkers How are they protected
 as pass through the deep tanks Have they been tested as per Rule
 pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times
 ungement 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
 nt to another Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from
 vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork
 Compressors, No. *2. one each engine* No. of stages *3* Diameters *120-540-600* Stroke *410* Driven by *Crank on end of*
 Air Compressors, No. No. of stages Diameters Stroke Driven by
 Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by
 ng Air Pumps, No. Diameter Stroke Driven by

RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule *Yes*
 internal surfaces of the receivers be examined What means are provided for cleaning their inner surfaces
 drain arrangement fitted at the lowest part of each receiver *Yes*
 sure Air Receivers, No. *2 injection* Cubic capacity of each { *200 litres* Internal diameter { *400 mm* thickness *16 mm*
2 storage { *400 litres* { *450 mm*
 welded or riveted longitudinal joint *solid drawn* Material *Steel* Range of tensile strength *44/50 x 29/25* Working pressure by Rules { *77.4 Kg. cm²*
68.8
 Air Receivers, No. *Two* Total cubic capacity *32 m³* Internal diameter *2052 mm* thickness of shell *26 mm*
 welded or riveted longitudinal joint *riveted* Material *Steel* Range of tensile strength *49/55 x 20* Working pressure by Rules *25 Kg. cm²*
D.B.S. T.R.

IS A DONKEY BOILER FITTED? *Two Auxiliary Boilers* If so, is a report now forwarded? *Yes*
 HYDRAULIC TESTS:—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS <i>liners</i>	<i>Machined all over.</i>				
COVERS	<i>water space 24.9.26 to 25.10.26</i>		3 kg.	<i>Prime date</i>	
JACKETS	"		"	"	
PISTON WATER PASSAGES	<i>16.4.26 to 11.5.26</i>				
MAIN COMPRESSORS—1st STAGE	<i>20.9.26 and 24.9.26</i>		<i>40 kg.</i>		
2nd	"		<i>5 kg.</i>		
3rd	<i>25.8.26</i>		130 kg		
AIR RECEIVERS—STARTING	<i>Two in N° 29.10.26</i>	25 kg.	39 kg		
INJECTION	<i>4 in N° 16 and 23.11.26 7.12.26</i>		130 kg		
AIR PIPES	<i>2.12.26 to 7.12.26</i>		130 kg	<i>initials</i>	
FUEL PIPES	<i>12.10.26 to 7.12.26</i>		150 kg		
FUEL PUMPS	<i>8 and 10.11.26</i>		65	<i>Prime date</i>	
SILENCER					
WATER JACKET					<i>head of water.</i>
SEPARATE FUEL TANKS	<i>6.4.26.</i>		0.25 kg.		

PLANS. Are approved plans forwarded herewith for Shafting *Copy in London. 9.12.24* Receivers *Copy in London. 19.10.26* Separate Tanks *4.11.25 Copy*
 Donkey Boilers *Copy in London. 12.1.25* General Pumping Arrangements in machinery space *Oil Fuel Burning Arrangements 16.11.25. 4.6.7.26*

SPARE GEAR 2 pr. main bearings and 2 bolts, 2 pr. bottom end bearings and 2 bolts, 2 pr. top end bearings and 2 bolts, 1 crank shaft coupling bolt, 1 bit turned shaft coupling bolt, 2 spare C.I. propellers, 2 cylinder covers complete, complete with rings, 1 piston completely machined, 36 piston rings, 3 sets of metallic packing for piston rods, 9 fuel complete 9 town parts for same, 2 starting air valves complete, 9 valve valves 9 springs for fuel valves, 2 sets springs starting 2 injection air valves complete 9 2 springs, 12 exhaust valves complete, 12 valves 9 sets 9 3 springs for same, 2 safety valves complete 18 pistons for fuel pump 9 6 sets, valve A springs suction 9 delivery, 4 pr. Air Compressor 1 pr. main bearing. 1 pr. top 1 pr. bottom end bearings 9 4 bolts, 1 set of piston rings, 1/2 set of all suction 9 delivery valves.
 The foregoing is a correct description.

Dates	During progress of work in shops—	During erection on board vessel—	Total No. of visits
1925 Feb. 13. March 20. 30. 31. 1. 6. 16. 24. May 4. 26. June 9. 15. July 2. 13. 24. 31. Aug. 27. Sept. 15. 21. 28. 30. Oct. 15. 20. 23. 30. Nov. 4. 8. 11. 18. 25. Dec. 2. 9. 12. 15. 22. 29. 1926 Jan. 25. 29. Feb. 1. 8. 15. 22. 29. March 5. 12. 19. 26. April 2. 9. 16. 23. 30. May 6. 13. 20. 27. June 3. 10. 17. 24. July 1. 8. 15. 22. 29. Aug. 5. 12. 19. 26. Sept. 2. 9. 16. 23. 30. Oct. 7. 14. 21. 28. 1927 Jan. 13. 126 in shop. Eng 9 Bostm.			

Dates of Examination of principal parts—	Cylinders	Thrust shaft	Intermediate shafts	Tube shaft
Crank shaft	29.3.26	Flywheel <i>and</i> Thrust shaft 12.10.26		
Screw shafts	28.6.26	Propeller <i>Roun.</i> Stern tube 20.3.26	Engine seatings	Engines holding down bolts
Completion of filling sea connections		Completion of pumping arrangements		Engines tried under working conditions
Crank shafts Material	<i>Y. 2. Steel</i>	Identification Mark 2510 and 2377	Flywheel shaft, Material	Identification Mark
Thrust shafts Material	<i>Y. 2. Steel</i>	Identification Mark 312 and 313	Intermediate shafts, Material <i>Roun.</i>	Identification Marks
Tube shaft, Material		Identification Mark	Screw shaft, Material <i>Y. 2. Steel</i>	Identification Mark 307 and

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 *Tigre (Nantes Report 1475. of Apr)*
 General Remarks (State quality of workmanship, opinions as to class, &c.) *Workmanship good.*

These *Main Engines* with their thrust 9 propeller shafts and starting air receivers have been specially surveyed during their construction. They have been built in accordance with approved plans and the Rules and the material used has been made in approved works and tested by the Surveyors to this Society as required by the Rules.
 They will be eligible in my opinion for the notation in the Register Book of + L. 11 suitable date, when fitted onboard in accordance with the Rules and satisfactorily tested full power working conditions.

Total fee, eng	£ 110. 14. 0	4/5 charged 9 Nantes
Main eng, 4/5 fu	£ 88. 12. 0 @ 120/50	
Special	10.855	
Donkey Boiler Fee	1.030	
Travelling Expenses (if any)	2.520	

Committee's Minute
 Assigned

Geo. C. Loring
 Engineer Surveyor to Lloyd's Register of Shipping

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