

Rpt. 4b

# REPORT ON OIL ENGINE MACHINERY.

No. 2895  
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No. in Survey held at Rocheport Sur Mer Date, First Survey 26<sup>th</sup> Augt. 1920 Last Survey 25<sup>th</sup> Jan. 1921

Reg. Book. Single on the Twin } MOTOR Screw vessels. " BACARDI I " Ex. "Mathurin" Number of Visits 14 Tons { Gross 444.58 Net 247.69

Master E. Albouy Built at Bordeaux By whom built A. & C. Maritimes du Sud Ouest Yard No. ✓ When built 1919

Engines made at PARIS By whom made Cie. de Construction Mécanique Engine No. 207 When made 1918

Donkey Boilers made at ✓ By whom made ✓ Procedes Sulzer Boiler No. ✓ When made ✓

Brake Horse Power 420 Owners Sociedad Ron Bacardi Port belonging to Santiago de Cuba

Nom. Horse Power as per Rule 82 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

OIL ENGINES, &c.—Type of Engines *Subzer 4.5" 56 (No 2547) 2 stroke cycle* Single or double acting *Single*

Maximum pressure in cylinders *35 Kilogs* No. of cylinders *4* No. of cranks *4* Diameter of cylinders *340. mm* ✓

Length of stroke *540. mm* ✓ Revolutions per minute *200* Means of ignition *Internal Combustion* Kind of fuel used *Crude oil*

Is there a bearing between each crank *Yes* ✓ Span of bearings (Page 92, Section 2, par. 7 of Rules) *430. mm* ✓

Distance between centres of main bearings *650. mm* Is a flywheel fitted *Yes* Diameter of crank shaft journals *as per Rule 207. mm* as fitted *215. mm* ✓

Diameter of crank pins *215. mm* Breadth of crank webs *as per Rule 275. mm* as fitted *280. mm* Thickness of ditto *as per Rule 115.9 mm* as fitted *115. mm*

Diameter of flywheel shaft *as per Rule 207. mm* as fitted *215. mm* ✓ Diameter of tunnel shaft *as per Rule 173. mm* as fitted *180. mm* Diameter of thrust shaft *as per Rule 181.6 mm* as fitted *180. mm* ✓

Diameter of screw shaft *as per Rule 185. mm* as fitted *180. mm* Is the screw shaft fitted with a continuous liner the whole length of the stern tube *NO.*

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 joints burned *✓*

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 ~~protected~~ protected between the liners *Yes* ✓ If without liners, is the shaft arranged to run in oil *✓*

Type of outer gland fitted to stern tube *✓* Length of stern bush *590. mm* ✓ Diameter of propeller *2098. mm* ✓ *1.539 m<sup>2</sup>* square feet

Pitch of propeller *2200. mm* ✓ No. of blades *4* state whether moveable *no.* Total surface *1656*

Method of reversing *Double Cam* Is a governor or other arrangement fitted to prevent racing of the engine when declutched *Yes* ✓ Thickness of cylinder liners *50 to 65 mm*

Are the cylinders fitted with safety valves *Yes* ✓ Means of lubrication *Forced* ✓ Are the exhaust pipes and silencers water cooled or lagged with non-conducting material *water cooled and lagged* ✓ If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine *✓*

The Exhaust is led in funnel *✓* No. of cooling water pumps *2* Is the sea suction provided with an efficient strainer which can be cleared within the vessel *Yes* ✓ No. of bilge pumps fitted to the main engines *1. Double acting* Diameter of ditto *115. mm* ✓ Stroke *110. mm* ✓

Can one be overhauled while the other is at work *Values only* ✓ No. of auxiliary pumps connected to the main bilge lines *one* ✓ How driven *Electric Motor*

Sizes of pumps *50% action Peripherique* No. and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps:—In engine room *2, 60 and 80. mm* ✓

and in holds, etc. *Eight, 60 and 80. mm* ✓ No. of ballast pumps *✓* How driven *✓* Sizes of pumps *✓*

Is the ballast pump fitted with a direct suction from the engine room bilges *✓* State size *✓* Is a separate auxiliary pump suction fitted in Engine Room and size *Yes. 60. mm* ✓ Are all the bilge suction pipes fitted with roses *Yes* ✓ Are the roses in Engine Room always accessible *Yes* ✓

Are the sluices on Engine Room bulkheads always accessible *none fitted* ✓ Are all connections with the sea direct on the skin of the ship *Yes* ✓

Are they valves or cocks *Both* ✓ Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates *No. 15* *Provision is made to lift a small plate* ✓

Are the discharge pipes 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 all pipes, cocks, valves and pumps in connection with the machinery accessible at all times *Yes* ✓ Are the bilge suction pipes, cocks and valves arranged so as to prevent any communication between the sea and the bilges *Yes* ✓ Is the screw shaft tunnel watertight *Yes* ✓ Is it fitted with a watertight door *Yes* ✓

worked from *Tunnel & Deck* If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork *✓*

No. of main air compressors *One* ✓ No. of stages *3* ✓ Diameters *390, 350, 75* Stroke *280. mm* ✓ Driven by *Main Shaft*

No. of auxiliary air compressors *✓* No. of stages *✓* Diameters *✓* Stroke *✓* Driven by *✓*

No. of small auxiliary air compressors *one* No. of stages *2* ✓ Diameters *110, + 35. mm* Stroke *✓* Driven by *Semi Diesel*

No. of scavenging air pumps *one* Diameter *700. mm* ✓ Stroke *450. mm* ✓ Driven by *Main Shaft* ✓

Diameter of auxiliary Diesel Engine crank shafts *as per Rule 60. mm* as fitted *✓* Are the air compressors and their coolers made so as to be easy of access *Yes* ✓

AIR RECEIVERS:—No of high pressure air receivers one Internal diameter 301.7 Cubic capacity of each 80 litres about  
 material Steel Seamless, ~~lap welded or riveted~~ longitudinal joint Solid drawn Range of tensile strength 58 To 68<sup>K</sup>  
 thickness 11.7 working pressure by Rules 88.8<sup>K</sup> No. of starting air receivers 5 Internal diameter 4 = 570.7  
 Total cubic capacity about 2000 litres Material Steel Seamless, ~~lap welded or riveted~~ longitudinal joint 4 Seamless & 1 riveted  
 Range of tensile strength ✓ thickness Seamless 15.7 Riveted 22.7 Working pressure by rules 52<sup>K</sup> By rule 566<sup>K</sup> to each receiver, which can be isolated,  
 fitted with a safety valve as per Rule yes. Can the internal surfaces of the receivers be examined yes. What means are provided for cleaning their  
 inner surfaces Valves on top, down at bottom and hole in Centre Is there a drain arrangement fitted at the lowest part of each receiver yes.

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IS A DONKEY BOILER FITTED? If so, is it report not required? REPORT ON OIL ENGINE MACHINERY HYDRAULIC TESTS

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS	✓	✓	✓	✓	
COVERS	✓	✓	✓	✓	
JACKETS	✓	✓	✓	✓	
PISTON WATER PASSAGES	✓	✓	✓	✓	
MAIN COMPRESSORS—1st STAGE	✓	✓	✓	✓	
2nd	✓	✓	✓	✓	
3rd	✓	✓	✓	✓	
AIR RECEIVERS—STARTING	14. 1. 21	52 <sup>1</sup> / <sub>2</sub> lb per cent.	104 <sup>1</sup> / <sub>2</sub> lb per cent.	R. (JC)	Good.
INJECTION	25. 1. 21	70 <sup>1</sup> / <sub>2</sub> lb per cent.	140 <sup>1</sup> / <sub>2</sub> lb per cent.	R. (JC)	Good.
AIR PIPES	✓	✓	✓	✓	
FUEL PIPES	✓	✓	✓	✓	
FUEL PUMPS	✓	✓	✓	✓	
SILENCER	✓	✓	✓	✓	
WATER JACKET	✓	✓	✓	✓	
SEPARATE FUEL TANKS	14 <sup>th</sup> & 16 <sup>th</sup> Dec. 1920	✓	Height 12 feet	R. 25. 1. 21	Good

PLANS. Are approved plans forwarded herewith for shafting 3. 11. 20 approved Receivers *yes*. Separate Tanks *yes*.  
SPARE GEAR *a list of spare gear now placed on board is forwarded herewith*

The foregoing is a correct description.

*Moquin & Co. de Rochefort*

Manufacturer.

Dates of Survey *During progress of work in shops - -*  
*During erection on board vessel - -*  
During Modification Total No. of visits *1920 Aug. 26, Sept. 20, 23, Oct. 18, 26, Nov. 10, 27, Dec. 14, 15, 16, 1921 Jan. 14, 24, 25*  
Dates of Examination of principal parts—Cylinders *8. 10. 20* Covers *8. 10. 20* Pistons *8. 10. 20* Rods *8. 10. 20* Connecting rods *8. 10. 20*  
Crank shaft *8. 10. 20* Thrust shaft *26. 8. 20* Tunnel shafts *26. 8. 20* Screw shaft *23. 9. 20* Propeller *20. 9. 20* Stern tube *20. 9. 20* Engine seatings *20. 9. 20*  
Engines holding down bolts *8. 10. 20* Completion of pumping arrangements *14. 1. 21* Engines tried under working conditions *24. 1. 21*  
Completion of fitting sea connections *14. 1. 21* Stern tube *26. 10. 20* Screw shaft and propeller *26. 10. 20*  
Material of crank shaft *Stated to be Steel* Identification Mark on Do. *✓* Material of thrust shaft *Stated to be Steel* Identification Mark on Do. *✓*  
Material of tunnel shafts *Stated to be Steel* Identification Marks on Do. *✓* Material of screw shafts *Stated to be Steel* Identification Marks on Do. *✓*  
Is the flash point of the oil to be used over 150° F. *70°C = 158°F.*  
Is this machinery duplicate of a previous case *✓* If so, state name of vessel *✓*

General Remarks (State quality of workmanship, opinions as to class, &c. *All the cylinders, pistons, valves, and valve gears, connections rods & guides, pumps, cranks, intermediate & thrust shafts, propeller, Stern bush, Sea connections, & fastenings, Air Compressors Examined & found in good order. Receivers Examined internally & tested. Screw Shaft drawn forward liner found split & renewed, Stern bush Guard Ring & all Studs renewed. Daily Service Tank's Examined & tested to the required height. Bilge pumps discharge valve fitted to Ship Side. Electric driven aux. pumps Connected to the main bilge line found not satisfactory was replaced by a No 3 Grouvelle & Arguembourg pumps "Action Peripherique" 150% diam. tested under working conditions & found satisfactory. Engines tested under working conditions and the manoeuvring found satisfactory. Fuel & Circulating pumps tested & found satisfactory. The materials and workmanship are satisfactory. The machinery being in an efficient condition is eligible in my opinion to be classed in Lloyd's Register and to have the notation of L MC. 1-21*

The amount of Entry Fee ... *£rs. 108.-* When applied for,  
Special ... *£rs. 1596.-* 27. 1. 1921  
Donkey Boiler Fee ... *£*  
Travelling Expenses (if any) *£rs. 1217.50* When received, *24. 1. 1921*

Committee's Minute

Assigned

*John Highton*  
Engineer Surveyor to Lloyd's Register of Shipping.



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