

## REPORT ON OIL ENGINE MACHINERY.

No. 7742

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Date of writing Report 27/10/27 When handed in at Local Office 29/10/27 Port of Trieste  
No. in Survey held at 5314 on the Reg. Book. Single Twin Triple Quadruple Screw vessel T.S.M.S. Araraquara Date, First Survey Apr 15 Last Survey Oct 27 1927 Number of Visits 23

Built at Monfalcone By whom built Cantieri Nav. Triestini Yard No. 176 When built 1927  
Engines made at Turin By whom made Fiat Fab. Grandi Motori Engine No. 1391 When made 1927  
Monkey Boilers made at Annan By whom made Lochman & Co Boiler No. 10098 When made 1927

Horse Power

Owners Lloyd Nacional S. A

Port belonging to Rio de Janeiro

Horse Power as per Rule 1008

Is Refrigerating Machinery fitted for cargo purposes yes

Is Electric Light fitted yes

for which vessel is intended South American Coasting Bahia Blanca &amp; Trinidad

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Engines, &amp;c. Type of Engines Fiat Diesel

2 or 4 stroke cycle 2 Single or double acting single

m pressure in cylinders 35 Kg Diameter of cylinders 680 mm Length of stroke 960 mm No. of cylinders 4 No. of cranks 4

bearings, adjacent to the Crank, measured from inner edge to inner edge 950 mm Is there a bearing between each crank yes

ions per minute 125 Flywheel dia. 3000 mm Weight 12000 Kg Means of ignition Compression Kind of fuel used Diesel oil

Shaft, dia. of journals as per Rule 407 1/2 mm Crank pin dia. 420 mm Crank Webs Mid. length breadth 530 mm Thickness parallel to axis —

as fitted 420 mm Mid. length thickness 265 mm Thickness around eyehole —

el Shaft, diameter as per Rule 407 1/2 mm Intermediate Shafts, diameter as per Rule 277.3 mm Thrust Shaft, diameter at collars as per Rule 291.2 mm

as fitted 420 to 300 as fitted 290 mm as fitted 310 mm

Shaft, diameter as per Rule — Screw Shaft, diameter as per Rule 315.3 mm Is the shaft fitted with a continuous liner no liner

as fitted — as fitted 335 mm

Liners, thickness in way of bushes as per Rule — Thickness between bushes as per Rule — Is the after end of the liner made watertight in the

boss — If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner —

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 —

liners are fitted, is the shaft lapped or protected between the liners — Is an approved Oil Gland or other appliance fitted at the after

the tube shaft yes Lubricator Length of Bearing in Stern Bush next to and supporting propeller 1860 mm

ler, dia. 3800 Pitch 4050 No. of blades 3 Material Bronze whether Moveable no Total Developed Surface 5.27 sq. feet

d of reversing Engines direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication

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

ducting 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 —

g Water Pumps, No. 2 on Main Motor Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes

Pumps worked from the Main Engines, No. 3 Diameter 85 mm Stroke 100 mm Can one be overhauled while the other is at work yes

connected to the Main Bilge Line No. and Size Two 150 Tons a 210 x 250 mm

How driven Electric motors

t Pumps, No. and size Two 150 Tons a 210 x 250 mm Lubricating Oil Pumps, including Spare Pump, No. and size One to each Main Motor

One Transfer pump 170 x 150

independent means arranged for circulating water through the Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

No. and size:—In Machinery Spaces Two 3 1/2" on main line Three in Tunnel well 3 1/2"

s, &amp;c. No 1 Hold, two 3 1/2" No 2 Hold, two 3 1/2" Refrig. Hold, two 3 1/2" No 3 Hold, four 3 1/2" No 4 Hold, three

Cofferdam forward to Tank No 1, one 3 1/2" Cofferdam in S.P. one in each 3 1/2"

endent Power Pump Direct Suctions to the Engine Room Bilges, No. and size Three Two a 4 3/4" one a 8"

the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes Are the Bilge Suctions in the Machinery Spaces

easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges yes

sea Connections fitted direct on the skin of the ship yes Are they fitted with Valves or Cocks valves

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

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

oes pass through the bunkers — How are they protected —

oes 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 yes

rangement 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

nent to another yes Is the Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from above deck

d vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

ir Compressors, No. One each Eng. No. of stages Three Diameters 120 x 530 x 600 Stroke 620 Driven by main Eng.

ry Air Compressors, No. one No. of stages three Diameters 70 x 270 x 310 Stroke 250 Driven by Electric Motor

Auxiliary Air Compressors, No. one No. of stages three Diameters 42 x 165 x 185 Stroke 140 Driven by Hot bulb Motor

ging Air Pumps, No 2 each Eng. Double act. Diameter 850 mm Stroke 800 mm Driven by Main Engine

ry Engines crank shafts, diameter as per Rule 154.3 mm

as fitted 160 mm

RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule yes

e internal surfaces of the receivers be examined yes What means are provided for cleaning their inner surfaces plugs in crows

e a drain arrangement fitted at the lowest part of each receiver yes

Pressure Air Receivers, No. 4 Cubic capacity of each 190 Lit. Internal diameter 291 mm thickness 12.5 mm

Seamless, lap welded or riveted longitudinal joint, Material S.M. Steel Range of tensile strength 45 Kg/mm<sup>2</sup> Working pressure by Rules 80 Kg

Starting Air Receivers, No. 23 main 2 auxiliary Total cubic capacity 9200 Lit. Internal diameter 291 mm thickness 12.5 mm

Seamless, lap welded or riveted longitudinal joint, Material S.M. Steel Range of tensile strength 45 Kg/mm<sup>2</sup> Working pressure by Rules 80 KgLloyds Register  
Foundation  
1044-0125(112)



# IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting

Receivers

Separate Tanks

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR One cylinder cover with valves, springs etc. One set of valves etc. for one cylinder. Four needle valve. One cylinder liner. One piston complete with rings, studs & nuts. One set of piston rings for one piston. Two telescopic cooling pipe. One complete set of screws for cam-shaft. One set of stud and nut for cylinder cover. One crank head complete bearing with bolts & nuts. One complete bottom end bearing with bolts & nuts. One main bearing with bolts & nuts. One set of bolts & nuts for crank shaft coupling. Two sets of bolts & nuts for intermediate shaft coupling. One set of piston rings for each size used in the main and auxiliary compressors. One set of suction and delivery valve for main and auxiliary compressors. One set of suction and delivery valve for scavange air pump. Working parts for one fuel pump.

The foregoing is a correct description.

Manufacturer

Dates of Survey while building

See Genoa Report No 9994

1927 Apr 15, May 20, June 13, 20, Sep 7, 14, 21, Oct 3, 4, 7, 8, 10, 11, 13, 18, 19, 20, 21, 22, 24, 26, 27.

Twenty three

Dates of Examination of principal parts - Cylinders 18.7.27 Covers 18.7.27 Pistons 18.7.27 Rods 18.7.27 Connecting rods 18.7.27  
Non-falcone Crank shaft 20.9.27 Flywheel shaft 21.9.27 Thrust shaft 21.9.27 Intermediate shafts 21.9.27 Tube shaft -  
Screw shaft 20.6.27 Propeller 13.10.27 Stern tube 13.6.27 Engine seatings 17.6.27 Engines holding down bolts 21.9.27  
Completion of fitting sea connections 17.6.27 Completion of pumping arrangements 7.10.27 Engines tried under working conditions 22.10.27  
Crank shaft, Material S.M.S. Identification Mark CH 3154.3155 Flywheel shaft, Material - Identification Mark MK 339.4  
Thrust shaft, Material S.M.S. Identification Mark CH 3128.3164 Intermediate shafts, Material S.M.S. Identification Mark VS 954.5  
Tube shaft, Material - Identification Mark CH 3070.3071 Identification Mark MK 305.343 Engines tried under working conditions 22.10.27  
Screw shaft, Material S.M.S. Identification Mark - Identification Mark MK 342  
Is the flash point of the oil to be used over 150° F. Diesel oil ✓ Spare VS 957

Is this machinery duplicate of a previous case yes

If so, state name of vessel Ararangua

General Remarks (State quality of workmanship, opinions as to class, etc.)

These engines were fitted on board at Montfalcone under special survey and satisfactorily tested under full working conditions. In my opinion the machinery is eligible for the notation of + LMC 10.27

See also Genoa Report No 9994

The amount of Entry Fee

1/5 Special

Donkey Boiler Fee

Travelling Expenses (if any)

Committee's Minute

Assigned

When applied for

29/10/1927

When received

19.11.1927

FRI 4 NOV 1927

+ dmb 10.27

oil engines

1927

Signature

Engineer Surveyor to Lloyd's Register of Shipping

Port of Trieste

Continuation of Report No. 7742 dated 27/10/1927 on the

One water circulating pump fitted in E.R. ready for use. One complete set of valves, springs etc. for one cylinder of the auxiliaries. Four needle valves for auxiliaries. One set of piston rings for one piston of the auxiliaries. One set of studs & nuts for one cylinder cover of the auxiliaries. One crank pin complete bearing with bolts & nuts and two main bearing studs & nuts for auxiliaries. One guide and bush for crank pin of the auxiliaries. One set of piston rings for each size of piston of the air compressor of the auxiliaries. One set of suction and delivery valves for the compressor of the auxiliaries. Working parts for the fuel pump of the auxiliaries. Tap and bottom end bearings with bolts & nuts for the auxiliary compressor. Main bearing bolts & nuts for auxiliary compressor. One piston rod complete for pistons of the main engine. One complete set of pads for thrust blocks. Suction and delivery valves for daily fuel supply pump. Suction and delivery valves for cooling water pump. Suction and delivery valves for bilge pumps. Lengths of pipes of each size used for the fuel delivery and injection air pipe with suitable flanges and unions. Assorted quantity of bolts & nuts