

REPORT ON OIL ENGINE MACHINERY.

No. 7742

Received at London Office

1 NOV 1927

Date of writing Report 27/10/27 When handed in at Local Office 29/10/27 Port of Trieste

No. in Survey held at Moufacione Date, First Survey Apr 15 Last Survey Oct 27 1927
Reg. Book. 5314 Number of Visits 23

Single }
Twin }
Triple }
Quadruple }
Screw vessel T.S.M.S. Araraquara Tons } Gross 4872
Net 2974

Built at Moufacione By whom built Cantier Nav. Triestino 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 Aman By whom made Cochran & Co Boiler No. 10098 When made 1927

Horse Power Owners Lloyd Nacional S. A Port belonging to Piso 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 & Trinidad

Genos report No 9994 Type of Engines Fiat Diesel 2 or 4 stroke cycle 2 Single or double acting single

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

Revolutions per minute 125 Flywheel dia. 3000 mm Weight 12000 Kg Means of ignition Compressor Kind of fuel used heavy 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 shrunk

as fitted 420 mm Mid. length thickness 265 mm Thickness around eye-hole shrunk

Propeller 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 315.3 mm Is the shaft fitted with a continuous liner no liner

as fitted 335 as fitted 335

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

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

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 shrunk

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

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

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

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

oil 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

insulating 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

Number of Water Pumps, No. 2 on main motor Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes

Water 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

Water Pumps, No. and size Two 150 Tons a 210 x 250 mm Lubricating Oil Pumps, including Spare Pump, No. and size One worked by Electr. Mot.

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"

Water, &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

independent 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

How are they protected shrunk

How are they protected shrunk

Have they been tested as per Rule shrunk

Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes

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

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

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

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

Auxiliary 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

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

Cranks, 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

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

Is there 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 seamless Material S.M. Steel Range of tensile strength 45 Kg mm² Working pressure by Rules 80 Kg

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

Seamless, lap welded or riveted longitudinal joint seamless Material S.M. Steel Range of tensile strength 45 Kg mm² Working pressure by Rules 80 Kg

Lloyd's Register
Foundation
W 111-0125(112)

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

Port of Trieste

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

PLANS. Are approved plans forwarded herewith for Shafting (If not, state date of approval) 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 pumps. Working parts for one fuel pump.

The foregoing is a correct description.

Manufacturer.

See Genoa Report No 9994

Dates of Survey while building	During progress of work in shops -	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.
	During erection on board vessel -	Twenty three
Total No. of visits		
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
Manifolds		
Crank shaft	20.9.27	Flywheel shaft 21.9.27
Screw shaft	20.6.27	Thrust shaft 21.9.27
	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	Engines tried under working conditions 22.10.27
Completion of pumping arrangements	7.10.27	
Crank shaft, Material S.M.S.	Identification Mark CH 3154-3155	Flywheel shaft, Material -
Thrust shaft, Material S.M.S.	Identification Mark CH 3070-3071	Intermediate shafts, Material S.M.S.
Tube shaft, Material -	Identification Mark -	Screw shaft, Material S.M.S.
Is the flash point of the oil to be used over 150° F.	Diene oil	Spore 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 Moutafaloue 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 *£ 500*
 1/5 Special ... *£ 248.00*
 Donkey Boiler Fee ... *£ 10.27*
 Travelling Expenses (if any) ... *£ 10.27*

When applied for, 29/10/1927
 When received, 19.11.27

Committee's Minute *FRI 4 NOV 1927*
 Assigned *+ dmb 10.27 oil engines DBI 120th*

R. Sparacis
 Engineer Surveyor to Lloyd's Register of Shipping

One water circulating pump fitted in E.R. ready for use. One complete set of valves, springs etc. for one cylinder of the Auxiliaries Diesel. 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 piston 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

L.S.O.F. with M.Y. "ARARANGUA" Gen Report 7672

Certificate (if required) to be sent to be sent to the Committee's Minute

