

## REPORT ON OIL ENGINE MACHINERY.

No. 2861.

Received at London Office 6 SEP 1927

Writing Report 2 Sept. 1927 when handed in at Local Office

Port of Stockholm

Survey held at Stockholm

Date, First Survey 1 Febr. 1918 Last Survey 31 Aug. 1927.

Number of Vessels 8.

4 on the ~~Single~~ <sup>tug</sup> ~~Twin~~ <sup>Screw</sup> ~~Triple~~ <sup>vessel</sup> QuitadorTons <sup>Gross</sup>  
<sub>Net</sub>

Built at Chester

By whom built J. Crichton &amp; Co. Ltd.

Yard No. 448 When built 1927

Engines made at Stockholm

By whom made J. &amp; C. G. Bolinder's Co. Ltd. Engine No. 14004 - 07 When made 1927

Key Boilers made at

By whom made Boiler No. When made

Horse Power 300

Owners Argentine Navigation Co.

Port belonging to Buenos Ayres

Horse Power as per Rule 86

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

ENGINES, &c.—Type of Engines Bolinder Oil Engine 2 ~~stroke~~ <sup>stroke</sup> cycle Single ~~double~~ <sup>acting</sup>

Pressure in cylinders 21 kg/cm.<sup>2</sup> No. of cylinders 4 Diameter of cylinders 380 mm. No. of cranks 4 Length of stroke 410 mm.

Bearings, adjacent to the Crank, measured from inner edge to inner edge 778 mm. Is there a bearing between each crank yes

Revolutions per minute 300 Flywheel dia. 900 mm. Weight 875 kg. Means of ignition Hot bulb Kind of fuel used Crude oil

Shaft, dia. of journals as per Rule 156 mm. Crank pin dia. 160 mm. Crank Webs Mid. length breadth 220 mm. Thickness parallel to axis —

Intermediate Shafts, diameter as fitted 160 mm. Mid. length thickness 94,5 mm. Thickness around eye hole —

Propeller wheel is fitted at fore end of the crank shaft. Thrust Shaft, diameter at collars as per Rule 150 mm. as fitted 155 mm.

Shafts, diameter as fitted — Is the tube screw shaft fitted with a continuous liner

Liners, thickness in way of bushes as per Rule — Thickness between bushes as fitted — 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 end of the tube shaft

Length of Bearing in Stern Bush next to and supporting propeller

Propeller, dia. Pitch 48 No. of blades Material — whether Moveable Total Developed Surface sq. feet

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

Thickness of cylinder liner none fitted the cylinders fitted with safety valves no Are the exhaust pipes and silencers water cooled or lagged with insulating material

If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

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

Pumps fitted to the Main Engines, No. none ordered Diameter — Stroke — Can one be overhauled while the other is at work

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 —

and, &c. —

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size —

Are the Bilge Suctions in the Machinery Space

the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes —

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

Sea Connections fitted direct on the skin of the ship — Are they fitted with Valves or Cocks —

fixed 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

How are they protected —

How are they protected — 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

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 — Is the Shaft Tunnel watertight — Is it fitted with a watertight door — worked from

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

Air Compressors, No. none fitted No. of stages — Diameters — Stroke — Driven by —

Auxiliary Air Compressors, No. — No. of stages — Diameters — Stroke — Driven by —

Working Air Pumps, No. none fitted Diameter — Stroke — Driven by —

Auxiliary Engines crank shafts, diameter as per Rule — as fitted —

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

Internal surfaces of the receivers be examined yes What means are provided for cleaning their inner surfaces manhole /300x400 mm./

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

Pressure Air Receivers, No. none fitted Cubic capacity of each — Internal diameter — thickness —

Is lap welded or riveted longitudinal joint — Material — Range of tensile strength — Working pressure by Rules —

Working Air Receivers, No. 2 Total cubic capacity 1300 litres Internal diameter 582 mm. thickness 9 mm.

Is lap welded or riveted longitudinal joint lap welded Material S.M. Steel Range of tensile strength 38 kg./mm.<sup>2</sup> as a minimum by Rules 18,5 kg/cm.<sup>2</sup>



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

HYDRAULIC TESTS:—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS .....	30.8.27	21 Kg/cm. <sup>2</sup>	43 Kg./cm. <sup>2</sup>	LLOYD'S TEST 43 Kg. A.I. 30.8.27. A	
COVERS .....	"	ditto	ditto		
JACKETS .....	"	-	3,5 kg/cm. <sup>2</sup>		
PISTON WATER PASSAGES .....	/open pistons/				
MAIN COMPRESSORS—1st STAGE .....	none fitted				
2nd .....					
3rd .....					
2 AIR RECEIVERS—STARTING .....	31.8.27	15 kg./cm. <sup>2</sup>	30 kg./cm. <sup>2</sup>	N:o 2259 LLOYD'S TEST 30 Kg. WP 15 Kg. A.I. 31.8.27. A	Spare: N:o 2260 LLOYD'S TEST 30 Kg. WP 15 Kg. A.I. 31.8.27. A
INJECTION .....	-				
AIR PIPES .....					
FUEL PIPES .....					
FUEL PUMPS .....					
SILENCER .....	30.8.27	-	3,5 kg./cm. <sup>2</sup>	Hydr. Test 3,5 Kg. A.I. 30.8.27. A	
WATER JACKET .....	"	-	ditto		
SEPARATE FUEL TANKS .....					

See Secretary's letters

PLANS. Are approved plans forwarded herewith for Shafting E.18. 1 1915 Receivers E.8.3.1916 Separate Tanks  
(If not, state date of approval) 2 10

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR to be supplied and inspected when machinery is fitted in ship.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1 & 28, 28, 4, 1918; 2 & 21, 20, 30 & 31 1927  
During erection on board vessel - - 2 11 12 2 8  
Total No. of visits in shop 8.

Dates of Examination of principal parts—Cylinders 20 & 30 27 Covers 20 & 30 27 Pistons 30 27 Rods - Connecting rods 2 & 21, 30 2

Crank shaft 1 & 28, 18, 30 27 Flywheel shaft - Thrust shaft 22, 418, 30 27 Intermediate shafts Tube shaft

Screw shaft Propeller Stern tube Engine seatings Engines holding down bolts

Completion of fitting sea connections Completion of pumping arrangements Engines tried under working conditions in shop 20 27

Crank shaft, Material S.M. Steel Identification Mark LLOYD'S N:o 2859 A.I. 30.8.27. A Flywheel shaft, Material Identification Mark

Thrust shaft, Material S.M. Steel Identification Mark LLOYD'S N:o 3071 A.I. 30.8.27. A Intermediate shafts, Material Identification Marks

Tube shaft, Material Identification Mark Screw shaft, Material Identification Mark

Is the flash point of the oil to be used over 150° F. ✓

Is this machinery duplicate of a previous case Yes If so, state name of vessel see Skm. report no. 2398.

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

I am of opinion that this motor is of superior material and workmanship, and as it has been designed and constructed under special survey, I have respectfully to submit that it will be eligible to be classed \*LMC, as soon as it has been fitted in a classed vessel to the satisfaction of the Society's Surveyors.

The amount of Entry Fee ... £ : When applied for, Special ... Kr 391,30 : 2.9. 1927.  
Donkey Boiler Fee ... £ : When received, Travelling Expenses (if any) £ : 30-9-27

Committee's Minute

FRI. 27 JAN 1928

Assigned

Engineer Surveyor to Lloyd's Register of Shipping.  
Assisted by Mr. H. J. Anderson.



Lloyd's Register Foundation