

# REPORT ON OIL ENGINE MACHINERY.

No. 13311

Received at London Office

30 AUG 1928

Date of writing Report 27.8.1928 When handed in at Local Office 28.8.1928 Port of

Southampton

No. in Survey held at Southampton

Date, First Survey

9/1/28 Last Survey

27/5/1928

Reg. Book.

Number of Visits 3

on the Single Screw vessel

"PATO REAL".

Tons <sup>Gross</sup> 23 (app) <sub>Net</sub>

Built at Southampton

By whom built J. J. Thornycroft & Co Ltd

Yard No. 1082 When built 1928

Engines made at Stockholm

By whom made J. + E. G. Bolinder & Co Ltd

Engine No. 19012/73 When made 1928

Donkey Boilers made at

By whom made Compania Argentina de Lanchas

Boiler No. When made

Brake Horse Power 120

Owners Forestal Hunt & Co Ltd

Port belonging to Buenos Aires

Nom. Horse Power as per Rule 34

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

## IL ENGINES, &c.—Type of Engines

2 or 4 stroke cycle Single or double acting

Maximum pressure in cylinders

No. of cylinders

Diameter of cylinders

No. of cranks

Length of stroke

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge

Is there a bearing between each crank

Revolutions per minute

See also Stockholm Report no 2991

Crank Shaft, dia. of journals

as per Rule

Crank pin dia.

Crank Webs

Mid. length breadth

shrink

Thickness parallel to axis

Flywheel Shafts, diameter

as per Rule

Intermediate Shafts, diameter

as per Rule

Thrust Shaft, diameter at collars

as per Rule

Tube Shafts, diameter

as fitted

Screw Shaft, diameter

as per Rule

as fitted

3 3/4

Is the screw shaft fitted with a continuous liner

as fitted

Bronze 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

propeller boss

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

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 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

18 1/2

Propeller, dia. 3'-11"

Pitch 3'-3"

No. of blades 3

Material Bronze

whether Moveable

No

Total Developed Surface 5.3 sq. feet

Method of reversing Engines

Is a governor or other arrangement fitted to prevent racing of the engine when declutched

Means of lubrication

Thickness of cylinder liners

Are the cylinders fitted with safety valves

Are the exhaust pipes and silencers water cooled or lagged with

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

Cooling Water Pumps, No.

Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Bilge Pumps fitted to the Main Engines, No.

Diameter

Stroke

Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line

No. and Size

1 @ 100 mm diam x 100 mm stroke

How driven

Main engines

Ballast Pumps, No. and size

Lubricating Oil Pumps, including Spare Pump, No. and size

Are two independent means arranged for circulating water through the Oil Cooler

Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size:—In Engine and Boiler Room

1 @ 2"

In Holds, &c.

1 @ 2" each compartment

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

(Hand pump only)

Are all the Bilge Suction pipes in compartments fitted with strum-boxes

Yes

Are the Bilge Suctions in the Machinery Space

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

Yes

Are all Sea Connections fitted direct on the skin of the ship

Yes

Are they fitted with Valves or Cocks Both

Are they 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

Are they 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

What pipes pass through the bunkers

Yes

How are they protected

Yes

What pipes pass through the deep tanks

Yes

Have they been tested as per Rule

Yes

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

Yes

Is the 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

Yes

Is the Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

worked from

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

Yes

Main Air Compressors, No.

No. of stages

Diameters

Stroke

Driven by

Auxiliary Air Compressors, No.

Hand compressor only

No. of stages

Diameters

Stroke

Driven by

Small Auxiliary Air Compressors, No.

No. of stages

Diameters

Stroke

Driven by

Scavenging Air Pumps, No.

Diameter

Stroke

Driven by

Auxiliary Engines crank shafts, diameter

as per Rule

as fitted

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

Can the internal surfaces of the receivers be examined

What means are provided for cleaning their inner surfaces

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

High Pressure Air Receivers, No.

Stockholm Report no 2991

Cubic capacity of each

Internal diameter

thickness

Seamless, lap welded or riveted longitudinal joint

Material

Range of tensile strength

Working pressure by Rules

Starting Air Receivers, No.

Total cubic capacity

Internal diameter

thickness

Seamless, lap welded or riveted longitudinal joint

Material

Range of tensile strength

Working pressure by Rules



IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

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 .....					
"    "    INJECTION .....					
AIR PIPES .....					
FUEL PIPES .....					
FUEL PUMPS .....					
SILENCER .....					
"    "    WATER JACKET .....					
SEPARATE FUEL TANKS .....					

PLANS. Are approved plans forwarded herewith for Shafting ☒ Receivers ☒ Separate Tanks ☒  
(If not, state date of approval)  
Donkey Boilers ☒ General Pumping Arrangements ☒ Oil Fuel Burning Arrangements ☒

SPARE GEAR

See separate sheet attached.

The foregoing is a correct description of the machinery on behalf of  
JOHN L. THORNTON & CO. LIMITED

*Harrison*  
ACCOUNTANT  
WOLSTON WORKS

Dates of Survey while building  
During progress of work in shops - -  
During erection on board vessel - -  
Total No. of visits

9.7.28 26.7.28 9.8.28 23.8.28 27.8.28  
5

Dates of Examination of principal parts—Cylinders Covers Pistons Rods Connecting rods  
Crank shaft Flywheel shaft Thrust shaft Intermediate shafts 9.7.28 Tube shaft  
Screw shaft 9.7.28 Propeller 9.8.28 Stern tube 9.8.28 Engine seatings 26.7.28 Engines holding down bolts 23/8/28  
Completion of fitting sea connections 9.8.28 Completion of pumping arrangements 27/8/28 Engines tried under working conditions 27/8/28  
Crank shaft, Material Identification Mark Flywheel shaft, Material Identification Mark  
Thrust shaft, Material Identification Mark Intermediate shafts, Material S.M. STEEL Identification Marks  
Tube shaft, Material Identification Mark Screw shaft, Material S.M. STEEL Identification Mark  
Is the flash point of the oil to be used over 150° F. ☒

Is this machinery duplicate of a previous case No. If so, state name of vessel

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

The above machinery has been efficiently installed on board in accordance with Rule requirements and is in my opinion eligible for the notation + LMC 8.28.

It is submitted that  
this vessel is eligible for  
THE RECORD + LMC 8.28

Oil Engines R.C.S.A.  
2cy. 13"-13 3/8"  
NHP 34  
J.C.G. Bolinder Skur.

The amount of Entry Fee ... £ 2 : 0 : 0 When applied for,  
Special ... £ 3 : 0 : 0 29/8/28  
Donkey Boiler Fee ... £ : : :  
Travelling Expenses (if any) £ : : :  
When received, 4.9.1928

Committee's Minute FRI. 7 SEP 1928

Assigned

+ LMC 8.28

Oil Engines  
CERTIFICATE WRITTEN

*J. McWilliam*  
Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation