

## REPORT ON OIL ENGINE MACHINERY.

No. 4208

Received at London Office 29 JUL 1935

Date of writing Report 26th July 35 When handed in at Local Office 26th July 1935 Port of BARCELONA  
No. in Survey held at BARCELONA Date, First Survey 17.9.33 Last Survey 17.7.35  
Reg. Book. Number of Visits 123.

on the Single Motor  
Twin Triple Screw vessel  
Quadruple  
Built at Bilbao By whom built Cia Euskalduna de Constr. Naval Yard No. 97 When built  
Engines made at Barcelona By whom made Cia Maquinista Sancho y Montano Engine No. 314 When made 1935  
Donkey Boilers made at By whom made Boiler No. When made  
Brake Horse Power 5000 Owners Cia Inmediatanea Port belonging to  
Nom. Horse Power as per Rule 1240 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted  
Trade for which vessel is intended 24 7/16 45 1/2

IL ENGINES, &c. Type of Engines Vertical Diesel Oil Engines - Crosshead type or 4 stroke cycle 2 Single or double acting Single  
Maximum pressure in cylinders 49.2 kg/cm<sup>2</sup> Diameter of cylinders 620 mm Length of stroke 1150 mm No. of cylinders 2x6 No. of cranks 2x6  
Mean Indicated Pressure 5.4 kg/cm<sup>2</sup> Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 963 mm Is there a bearing between each crank Yes  
Revolutions per minute 120 Flywheel dia. 60" Weight 6455 kg Means of ignition Air Compression Kind of fuel used Coal oil  
Crank Shaft, dia. of journals as per Rule 388 mm as fitted 410 mm Crank pin dia. 410 mm Crank Webs Mid. length breadth 630 mm Thickness parallel to axis 250 mm  
Flywheel Shaft, diameter as per Rule 388 mm as fitted 400 mm Intermediate Shafts, diameter as per Rule 288.6 mm as fitted 330 mm Thrust Shaft, diameter at collars as per Rule 297.8 mm as fitted 400 mm  
Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as fitted Is the tube screw shaft fitted with a continuous liner

Bronze Liners, thickness in way of bushes as per Rule as fitted Thickness between bushes as per rule as fitted 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 If so, state type Length of Bearing in Stern Bush next to and supporting propeller

Propeller, dia. Pitch No. of blades Material whether Moveable Total Developed Surface sq. feet  
Method of reversing Engines Quick Reversible Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication

Lined Lubrication Thickness of cylinder liners 33 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with  
non-conducting 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

Cooling Water Pumps, No. 2 Centrif. 200 mm 250 m<sup>3</sup>/hour Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Bilge Pumps worked from 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 How driven  
Is the cooling water led to the bilges If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping  
arrangements

Ballast Pumps, No. and size 1 Centrif. 200 mm 250 m<sup>3</sup>/hour Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 H.C. Rotary 80 mm dia. 70 m<sup>3</sup>/hour  
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 Machinery Spaces In Pump Room

In Holds, &c.  
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Are the Bilge Suctions in the Machinery Spaces  
led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges

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

Are they 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  
What pipes pass through the bunkers How are they protected

What pipes pass through the deep tanks Have they been tested as per Rule

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

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 Is the Shaft Tunnel watertight 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

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

Small Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by  
Scavenging Air Pumps, No. 2x3 Diameter 715 mm Stroke 1150 mm Driven by Main Engines

Auxiliary Engines crank shafts, diameter as per Rule as fitted

W1132-0134



**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 and cleaned Yes Is a drain fitted at the lowest part of each receiver Yes

**High Pressure Air Receivers, No.** ..... **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.** 4 **Total cubic capacity** 10.68 cub. inches **Internal diameter** 1000" **thickness** 34 1/4"

**Seamless, lap welded or riveted longitudinal joint** Riveted **Material** Steel **Range of tensile strength** 45.5/49.8 **Working pressure** by Rules 65 lb./sq. in. Actual 65 lb./sq. in.

**IS A DONKEY BOILER FITTED?**

If so, is a report now forwarded?

Is the donkey boiler intended to be used for domestic purposes only

**PLANS.** Are approved plans forwarded herewith for Shafting 9-6-33 **Receivers** 9-6-33 **Separate Tanks** .....

**Donkey Boilers** ..... **General Pumping Arrangements** ..... **Oil Fuel Burning Arrangements** .....

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied Yes

State the principal additional spare gear supplied

1 MC Crosshead complete 1 cylinder liner  
Upper & lower spur wheels for chain drive of camshaft  
1 complete chain for camshaft drive & 2 sets spare links  
2 sets cam rod bottom end bearings & 1 set top end bearings  
1 additional fuel valve, air starting valve & cyl. safety valve  
2 Piston rings 1 piston with rings complete 3 cylinder covers without valves  
2 piston rods 1 lubricating oil pump for crossheads

The foregoing is a correct description,

LA MOQUINISTA TERRESTRE Y MARITIMA

El Subdirector

Manufacturer.

**Dates of Survey while building**  
During progress of work in shops - 1933 March 17, April 14, May 29, June 13, 15, 24, July 4, 13, 25, Aug 2, 16, 21, Oct 3, 23, 25, Nov 23, Dec 22  
During erection on board vessel - 1934 Jan 16, 19, Feb 5, 14, 21, 28, March 2, 20, 28, April 4, 6, 13, 18, 23, 25, May 2, 3, 10, 16, 25, June 1, 5, 13, 15, 19, 22, 25, 27, 28, July 4, 11, 13, 16, 19, 26, Aug 2, 6, 9, Sept 3, 7, 8, 11, 21, 25, Oct 5, 16, 20, 26, 27, 30, Nov 2, 23, 27, 28, 30, Dec 1, 4, 10, 11, 12, 1935 Jan 3, 7, 9, 17, 18, 21, 22, 25, Feb 13, 22, 25, Mar 2, 8, 14, 16, 20, 26, 30, Apr 1, 2, 3, 4, 9, 10, 15, 17, 20, 23, 24, May 21, 24, 25, 27, 29, 30, June 3, 5, July 17  
**Total No. of visits** 123

**Dates of Examination of principal parts**—Cylinders 25-1-34 Covers 25-4-34 Pistons 25-5-34 Rods 25-5-34 Connecting rods 29-1-34  
Crank shaft 21-3-34 Flywheel shaft 16-7-34 Thrust shaft 29-1-34 Intermediate shafts ..... Tube shaft .....

Screw shaft ..... Propeller ..... Stern tube ..... Engine seatings ..... Engines holding down bolts .....  
**Completion of fitting sea connections** ..... **Completion of pumping arrangements** 21.5.35 R.R. **Engines tried under working conditions** 17.1.35/18/19  
Crank shaft, Material Steel Identification Mark 440YDS 29-3-34 67T 29-1-34 Flywheel shaft, Material ..... Identification Mark .....  
Thrust shaft, Material Steel Identification Mark 440YDS 30-9-34 67T 29-1-34 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.

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo

If so, have the requirements of the Rules been complied with

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with

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, etc.) This machinery has been constructed under

Special Survey in accordance with the Rules and approved plans. All tests  
as required by the Rules have been satisfactorily carried out. Both motor,  
in completion, have been tested under full working conditions on the test bed  
found to be, as far as can be seen, entirely satisfactory.

The materials used in the construction have been tested as required by  
Rule, the corresponding certificate being attached herewith.

Recommended that the machinery of this vessel have notation in the  
Register Book of F.L.M.C. with date and "OIL ENGINES" when the machinery  
has been fitted on board the vessel under survey, & tested to the satisfaction  
of the Society's Surveyors.

The amount of Entry Fee 4/5 £ 15 250

Special 4/5 £ 5650

Donkey Boiler Fee 1/6 4209 £ 900

Travelling Expenses (if any) £ 125

When applied for, 31 JUL 1935

When received, 127/4/36

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

See Bbo. J.E. 8673



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Certificate (if required) to be sent to  
(The Surveyors are requested not to write on or below the space for Committee's Minute.)