

# REPORT ON OIL ENGINE MACHINERY.

No. 8393

15 JAN 1934

Date of writing Report **2<sup>nd</sup> Jan 1934** When handed in at Local Office **10** Port of **BILBAO**  
 Date, First Survey **30. 1. 32** Last Survey **29. 12. 1933**  
 Number of Visits **95**  
 in Survey held at **BILBAO**  
 Book, **2902** on the **Single** Screw vessel (Motor Ship) "**CAMPECHE.**"  
 Tons { Gross **6300**  
 Net  
 Built at **badiz** By whom built **Soc. Esp. de Const. Naval** Yard No. **66** When built **1933-4**  
 Engines made at **Bilbao** By whom made **Soc. Esp. de Const. Naval** Engine No. **P. 5160335** When made **1933**  
 Monkey Boilers made at By whom made Boiler No. **S. 5160336** When made  
 Brake Horse Power **2 x 1500** Owners **C. A. M. P. S. A.** Port belonging to  
 Net Horse Power as per Rule **776** Is Refrigerating Machinery fitted for cargo purposes **no** Is Electric Light fitted  
 Made for which vessel is intended **13<sup>5</sup>/<sub>8</sub>** **40<sup>15</sup>/<sub>16</sub>**

**ENGINES, &c.**—Type of Engines **Constructora Naval Sulzer** 2 or 4 stroke cycle **2** Single or double acting **Single**  
 Maximum pressure in cylinders **600 lbs** Diameter of cylinders **600 mm** Length of stroke **1040 mm** No. of cylinders **2 x 4** No. of cranks **2 x 4**  
 No. of bearings, adjacent to the Crank, measured from inner edge to inner edge **440 mm** Is there a bearing between each crank **yes.**  
 Revolutions per minute **130** Flywheel dia. **2100 mm** Weight **4800 kgs** Means of ignition **Air inj.** Kind of fuel used  
 Crank Shaft, dia. of journals as per Rule **390 mm** Crank pin dia. **390 mm** Crank Webs Mid. length breadth **626 mm** Thickness parallel to axis **245 mm**  
 as fitted **390 mm** Mid. length thickness **226 mm** shrunk Thickness around eye-hole **185 mm**  
 Main Shaft, diameter as per Rule **400 mm** Intermediate Shafts, diameter as per Rule **400 mm** Thrust Shaft, diameter at collars as per Rule **400 mm**  
 as fitted **400 mm** as fitted Is the { tube { shaft fitted with a continuous liner {  
 as fitted **400 mm** as fitted

Is the after end of the liner made watertight in the  
 If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner  
 If 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 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  
 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 **Air inj.** Is a governor or other arrangement fitted to prevent racing of the engine when declutched **yes.** Means of lubrication  
 Thickness of cylinder liners 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

**Water Pumps, No. 2 Constructora Naval Drysdale** Is the sea suction provided with an efficient strainer which can be cleared within the vessel  
**Pumps worked from the Main Engines, No. 1 ea. eng.** Diameter **140 mm** Stroke **320 mm** Can one be overhauled while the other is at work  
 Pumps connected to the Main Bilge Line { No. and Size  
 How driven  
 Lubricating Oil Pumps, including Spare Pump, No. and size **2 Constructora Naval Drysdale**  
**30 tons. Vertical Type—Electric.**  
 Are 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  
 Pumps, &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  
 Are 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  
 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  
 Are pipes pass through the bunkers How are they protected  
 Are 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 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  
 On wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork  
**Air Compressors, No. 1 ea. engine** No. of stages **3** Diameters **570/480/150** Stroke **400 mm** Driven by **Main Engines**  
**Auxiliary Air Compressors, No. 2** No. of stages **2** Diameters **240/80** Stroke **140 mm** Driven by **Aux. Diesel Eng.**  
**Auxiliary Air Compressors, No.** No. of stages Diameters Stroke Driven by  
**Enging Air Pumps, No. 1 each engine** Diameter **1340 mm** Stroke **650 mm** Driven by **Main Engines**  
**Auxiliary Engines crank shafts, diameter** as per Rule **135 mm** as fitted

**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 and cleaned **yes.** Is a drain fitted at the lowest part of each receiver **yes.**  
**Pressure Air Receivers, No. 2 Reserve** Cubic capacity of each **150 litres** Internal diameter **300** thickness **10.5**  
 ss, lap welded or riveted longitudinal joint **Seamless** Material **Certificatis furnished with Bbs. Rpt. no. 8338** Range of tensile strength **41-47 kgs** Working pressure **45 kgs/cm<sup>2</sup>**  
**Eng Air Receivers, No. 2** Total cubic capacity **24 c.m.** Internal diameter **1740/1800** thickness **30 mm**  
 ss, lap welded or riveted longitudinal joint **riveted** Material **S.M. steel** Range of tensile strength **41-47 kgs** Working pressure **30 kgs/cm<sup>2</sup>**



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 No 25+26/2/32 Receivers No 12.4.32 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 *Main Engines: cyls. liner complete with rubber & copper piston rod and 1 crosshead complete with guide shoes. Aux. Eng: 1 cylinder liner, 1 cylinder cover, 1 crosshead & piston complete with rod & rings.*

The foregoing is a correct description.

Astilleros y Talleres de Sest

Manufacturer.

Dates of Survey while building  
During progress of work in shops -- 1932 Jan 30. April 4. May 5, 6, 30, 31, June 20 July 1, 13, 19, 20 Aug. 18 Sept 13 Nov 28, 29 Dec 20  
During erection on board vessel -- 1933 Jan. 4, 24 Feb. 1, 11, 14, 23, 28 April 22 May 5, 7, 18, 22, 26, 31 June 3, 9, 13, 16, 20, 23, 27, 28 July 1, 6, 8, 13, 15, 20 Aug. 3, 7, 10, 11, 18, 31 Sept. 1, 4, 11, 13, 16, 19, 26, 29, 30 Oct. 2, 4, 5, 7, 10, 11, 14, 18, 25, 26, 28, 29 Nov. 2, 9, 11, 25, 27, 28, 30 Dec. 5, 11, 13, 15, 18, 19, 20, 21, 27, 28, 29  
Total No. of visits 95 IN SHOPS.

Dates of Examination of principal parts -- Cylinders 8.7.33 13.6.24, 26, 27, 30/6/33 20.22.23+27/2/32 18/8/32 13/9/32  
Crank shaft 23/3/33-5 14/10/33-P Flywheel shaft P&S. 3/5.32 Thrust shaft combined with Flywheel shafts Intermediate shafts 28/11/32 Tube shaft 4/1/33

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

Crank shaft, Material SM. steel Identification Mark P. No. 167 GP. Flywheel shaft, Material S.M. steel Identification Mark N° 64988

Thrust shaft, Material combined with Flywheel shaft Identification Mark 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 Yes If so, state name of vessel M.S. CAMPERO.

General Remarks (State quality of workmanship, opinions as to class, &c. The above machinery has been constructed under special survey in accordance with the Society's Rules & Regulations, the approved plans and the Secretary's letters. The materials used in the construction and the workmanship are good. Shop trials of the main and auxiliary engines have been carried out with satisfactory results. The starting air receivers were tested by water pressure to 44 kg/cm² and found good & tight.

In our opinion the vessel for which this machinery is intended will be eligible to have the notation + LMC (with date) when the machinery has been satisfactorily fitted on board & tried under working conditions.

(Enclosed herewith 6 forging reports.)

The amount of Entry Fee 192- 5480- 412- 503- 50- 40- 5.2. 1934

Travelling Expenses (if any) 50- 40- 5.2. 1934

Committee's Minute FRI 15 JUN 1934

Assigned See Cd 26 1421