

pt. 4b.

# REPORT ON OIL ENGINE MACHINERY.

No. 8169

9 AUG 1932

Date of writing Report 29<sup>th</sup> July 1932 When handed in at Local Office 4<sup>th</sup> Aug. 1932 Port of Bilbao  
 Date, First Survey 17<sup>th</sup> July 1931 Last Survey 23<sup>rd</sup> July 1932  
 No. in Survey held at Bilbao Number of Visits 53.

183 on the Twin Screw vessel "CAMPEADOR"  
 Tons Gross 7932.06 Net 4411.76

Built at Bilbao By whom built Cia. Eschelduna de Constr. Yard No. 96 When built 1932  
 Engines made at Augsburg By whom made Masch. Fab. Augsburg Nürnberg Engine No. 160 When made 1932  
 Donkey Boilers made at Bilbao By whom made Cia. Eschelduna de Constr. Boiler No. 121/2 When made 1932  
 Brake Horse Power 2 x 1600 Owners Cia. Puercelana del Monopolio Port belonging to Santander  
 Nom. Horse Power as per Rule 755 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended Carrying Petroleum in bulk. 23 5/8" 43 5/16"

**L ENGINES, &c.**—Type of Engines Heavy oil engines (K7 Vn 60/110) 2 or 4 stroke cycle 4 Single or double acting Single  
 Maximum pressure in cylinders 45 atm. Diameter of cylinders 600 mm Length of stroke 1100 mm No. of cylinders 2 x 7 No. of cranks 2 x 7  
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 854 mm Is there a bearing between each crank Yes  
 Revolutions per minute 125 Flywheel dia. 2230 mm Weight 5030 kg. Means of ignition airless injection Kind of fuel used Diesel oil.  
 Crank Shaft, dia. of journals as per Rule 377 mm Crank pin dia. 390 mm Crank Webs Mid. length breadth 550 mm Thickness parallel to axis 242 mm  
 as fitted 390 mm Mid. length thickness 242 mm Thickness around eye-hole 172.5 mm  
 Flywheel Shaft, diameter as per Rule 390 mm Intermediate Shafts, diameter as per Rule 255 mm Thrust Shaft, diameter at collars as per Rule 268 mm  
 as fitted 390/320 mm as fitted 360 mm as fitted 320 mm  
 Tube Shaft, diameter as per Rule 281 mm Is the screw shaft fitted with a continuous liner Yes  
 as fitted 380 mm

Iron Liners, thickness in way of bushes as per Rule 22.5 mm Thickness between bushes as per rule 16.5 mm Is the after end of the liner made watertight in the

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

If two liners are fitted, is the shaft lapped or protected between the liners Yes Is an approved Oil Gland or other appliance fitted at the after end of the tube

shaft No If so, state type lignum vitae stem bush Length of Bearing in Stern Bush next to and supporting propeller 1900 mm

Propeller, dia. 3725 mm Pitch 3450 mm No. of blades 4 Material Bronze whether Movable Yes Total Developed Surface 5.5 m<sup>2</sup> sq. feet

Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when decelerated Yes Means of lubrication

Force Thickness of cylinder liners 45 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with

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

Cooling Water Pumps, No. 1 off each engine; 1 spare Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Bilge Pumps worked from the Main Engines, No. 1 each Diameter 135 mm Stroke 200 mm Can one be overhauled while the other is at work Yes

Pumps connected to the Main Bilge Line No. and Size 2 @ 135 x 200 mm, 1 Ballast - 200 mm; 1 Bilge - 60 mm:  
 How driven Main engines; Steam; duplex; Electric; centrifuge.

Ballast Pumps, No. and size 1 Duplex - 200 mm, Engine Room Lubricating Oil Pumps, including Spare Pump, No. and size 1 off each engine 47 mm<sup>3</sup>/hr.  
 1 spare, including 29 mm<sup>3</sup>/hr.

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 1 @ 95 mm, 1 @ 82 mm Independent Pump and In Pump Room 2 @ 106 mm  
 In Holds, &c. 1 @ 102 mm; Branch cargo line suction 1 @ 102 mm

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 Ballast @ 180 mm, 1 Bilge @ 95 mm

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes 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 Yes

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

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 Yes

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 No Is it fitted with a watertight door Yes worked from Yes

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.** 2 **No. of stages** 2 **Diameters** 300/110 mm **Stroke** 200 mm **Driven by** Ana oil engines

**Auxiliary Air Compressors, No.** 2 **No. of stages** 2 **Diameters** 200 mm **Stroke** 200 mm **Driven by** Ana oil engines

**Small Auxiliary Air Compressors, No.** 1 **No. of stages** 2 **Diameters** 200 mm **Stroke** 200 mm **Driven by** Steam engine

**Scavenging Air Pumps, No.** 2 **Diameter** 130 mm **Stroke** 200 mm **Driven by** Ana oil engines

**Auxiliary Engines crank shafts, diameter** as per Rule 130 mm **Position** 1 Port - 1 Starboard side engine room.

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

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. 2 for main eng. Cubic capacity of each 10,000 ltr. Internal diameter 215 mm thickness 26 mm

Seamless, lap welded or riveted longitudinal joint riveted Material S.M. steel Range of tensile strength 41/47 Working pressure Actual 30 atm.

Starting Air Receivers, No. 2 for aux eng. Total cubic capacity 125 ltr. each Internal diameter 405 mm thickness 12 mm

Seamless, lap welded or riveted longitudinal joint seamless Material S.M. steel Range of tensile strength 44/50 Working pressure Actual 30 atm.

WS16-0016



IS A DONKEY BOILER FITTED? *Two Donkey Boilers* If so, is a report now forwarded? *Yes*

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

PLANS. Are approved plans forwarded herewith for Shafting ☒ Receivers ☒ Separate Tanks *4/7/30*  
(If not, state date of approval)  
Donkey Boilers *4/6/30* General Pumping Arrangements *30/5/30, 9/12/30* Oil Fuel Burning Arrangements *2/12/30*

## SPARE GEAR.

Has the spare gear required by the Rules been supplied? *Yes*

State the principal additional spare gear supplied *Spare tail shaft; two propeller blades. One main engine cylinder liner; set of bottom end and main bearing brasses; 3 exhaust valves; set of pump spares; auxiliary engine complete. Various additional spare parts for main and auxiliary engines, pumps, compasses, electrical installation, boilers, oil fuel burning installations etc.*

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building  
During progress of work in shops-  
During erection on board vessel--  
Total No. of visits *53*  
*1931: July 17, 24; Aug 24, 31; Oct 9, 19, 29; Nov 5, 19, 20; Dec 10; 1932: Jan 7, 27, 29; Feb 4, 10, 23, 24; Mar 14, 22; Apr 8, 18, 22, 29; May 3, 4, 7, 10, 13, 19, 31; June 3, 6, 7, 8, 10, 15, 14, 17, 25, 28; July 2, 5, 6, 8, 14, 15, 18, 22, 23.*

Dates of Examination of principal parts—Cylinders *6/6/32* Covers *17/4/32* Pistons *14/6/32* Rods *14/6/32* Connecting rods *31/5/32*

Crank shaft *2/5/32* Flywheel shaft *2/5/32* Thrust shaft *2/6/32* Intermediate shafts *3/6/32* Tube shaft *3/6/32*

Screw shaft *13/5/32* Propeller *14/7/32* Stern tube *7/5/32, 13/5/32* Engine seatings *18/11/31* Engines holding down bolts *17/6/32, 23/6/32*

Completion of fitting sea connections *23/2/32* Completion of pumping arrangements *15/7/32* Engines tried under working conditions *22/7/32*

Crank shaft, Material *S.M. steel* Identification Mark *2536 FK 12/11/31* Flywheel shaft, Material *S.M. steel* Identification Mark *KH 14564 28/11*

Thrust shaft, Material *S.M. steel* Identification Mark *KH 14562 28/11/31* Intermediate shafts, Material *S.M. steel* Identification Marks *25/2/32*

Tube shaft, Material *S.M. steel* Identification Mark *KH 14563* Screw shaft, Material *S.M. steel* Identification Mark *J.L. 9376-8 25/2/32*

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

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

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *Yes* If so, have the requirements of the Rules been complied with *Yes*

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

Is this machinery duplicate of a previous case *Yes* If so, state name of vessel *"CAMPOADOR" Bilbao Report N° 78*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The Machinery of this vessel*

*(see Bremen Report N° 1451) has been satisfactorily fitted on board, in accordance with the Rules & Regulations and approved plans. The Machinery has been tested under full working conditions with satisfactory results and is eligible in my opinion to be classed, with the record of L.M.C. 7.32 and notation of C.L. and 2 D.B.-150 lb. in the Register Book.*

*Note: Branch suction has been fitted from the main cargo oil lines for draining cofferdams at fore & after ends of cargo tanks (see London Letter E 9/12/30 & 24/12/30) the cofferdam suction as shown on the approved plan dated 30/5/30 having been dispensed with.*

The amount of Entry Fee .. *Rs. 264/-* When applied for, *5/8 1932*

*1/5* Special ... *Rs. 1488/-*

2 Donkey Boiler Fee ... *Rs. 1215/-* When received, *15.8. 1932*

Travelling Expenses (if any) £ *93/-*

Committee's Minute *FRI. 12 AUG 1932*

Assigned *+ L.M.C. 7.32 C.L. 200 lb.*

CERTIFICATE WRITTEN

Engineer Surveyor to Lloyd's Register of Shipping.

Lloyd's Register Foundation