

# REPORT ON OIL ENGINE MACHINERY.

Received at London Office

23 MAY 1934

Date of writing Report May 13<sup>th</sup> 1934 When handed in at Local Office 19<sup>th</sup> May 1934 Port of Cádiz

No. in Survey held at San Severiano, Cádiz Date, First Survey April 15<sup>th</sup> 1932 Last Survey May 12<sup>th</sup> 1934

Reg. Book. 2904 on the Single Twin Triple Quadruple Screw vessel Motor Vessel "Campero" Tons Gross 6300 Net

Built at Cádiz By whom built Echevarriola y Larinaga Yard No. 24 When built 1938-4

Lines made at Seslao Bilbao By whom made S. E. de C. V. Engine No. P. 91 60333 When made 1933

Key Boilers made at Bilbao By whom made Cia Euskalduna Boiler No. 125 When made 1932

Indicated Horse Power 2 x 1500 Owners C. A. M. P. S. A Port belonging to Malaga

Actual Horse Power as per Rule 446 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Use for which vessel is intended Carrying oils in bulk see Capesche

ENGINES, &c. Type of Engines Constructora Naval Gulzer 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

Distance 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 2100 Flywheel dia. 2100 mm Weight 4800 kgs Means of ignition Air Inj Kind of fuel used Gas oil

Crank Shaft, dia. of journals as per Rule 390 mm as fitted 390 mm Crank pin dia. 390 mm Crank Webs Mid. length breadth 620 mm Kind of fuel used Gas oil Thickness parallel to axis 245 mm shrunk Thickness around eyehole 185 mm

Wheel Shaft, diameter as per Rule 400 mm as fitted 400 mm Intermediate Shafts, diameter as per Rule 365 mm as fitted 365 mm Thrust Shaft, diameter at collars as per Rule 400 mm as fitted 400 mm

Propeller Shaft, diameter as per Rule 354 to 362 mm as fitted 354 to 362 mm Is the tube screw shaft fitted with a continuous liner Yes

Size Liners, thickness in way of bushes as per Rule 21 mm as fitted 21 mm Thickness between bushes as per rule 16 mm as fitted 16 mm Is the after end of the liner made watertight in the stern 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 one length

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 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 Yes

Length of Bearing in Stern Bush next to and supporting propeller 1820 mm See plan

Propeller, dia. 12'3" Pitch 11.9 No. of blades 3 Material Brong whether Moveable no Total Developed Surface 35.5 sq. feet

Method of reversing Engines Air Engine Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication see

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

Number of Working Water Pumps, No. Two Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Number of Pumps worked from the Main Engines, No. one each Engine diameter 140 mm Stroke 320 mm Can one be overhauled while the other is at work Yes

Number of Pumps connected to the Main Bilge Line No. and Size 2 - 60 lins each How driven Electric

Number of Oil Pumps, No. and size One 9" x 11" x 10" - 200 lins Lubricating Oil Pumps, including Spare Pump, No. and size Two C. V. 30T Vertical

Are there independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Machinery Spaces see

Number of Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 Duplex 200 lins & 1 Centrifugal 60 lins

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

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

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 Line level

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

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

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

Are 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 tunnel Is it fitted with a watertight door Yes worked from Yes

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

Number of Air Compressors, No. each engine No. of stages 3 Diameters 570/480/150 Stroke 400 mm Driven by Main Engine

Number of Auxiliary Air Compressors, No. two No. of stages two Diameters 240/80 Stroke 140 mm Driven by Auxiliary Diesel Eng

Number of Auxiliary Air Compressors, No. one No. of stages two Diameters see Stroke see Driven by Steam

Number of Operating Air Pumps, No. one each engine Diameter 1340 mm Stroke 650 mm Driven by Main Engine

Number of Auxiliary Engines crank shafts, diameter as per Rule 135 mm as fitted 135 mm

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 Yes What means are provided for cleaning their inner surfaces fitted with manhole doors

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

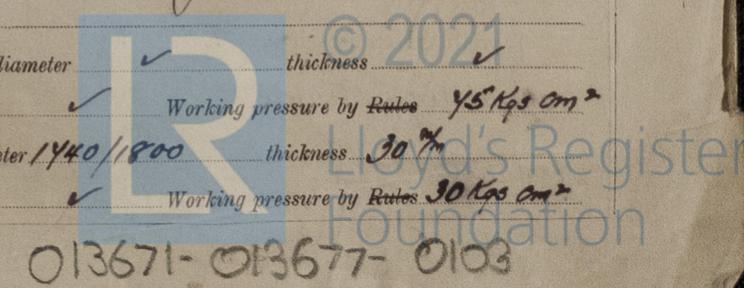
Number of High Pressure Air Receivers, No. 2 + 2 Cubic capacity of each 150 + 400 litres Internal diameter see thickness see

Are they seamless, lap welded or riveted longitudinal joint Seamless Material Steel Range of tensile strength see Working pressure by Rules 45 lbs/cm<sup>2</sup>

Number of Starting Air Receivers, No. 2 Total cubic capacity 24 c.m. Internal diameter 1440/1800 thickness 30 mm

Are they seamless, lap welded or riveted longitudinal joint Seamless Material Steel Range of tensile strength see Working pressure by Rules 30 lbs/cm<sup>2</sup>

SEE CADIZ LETTER 2.6.34 AND APPROVED ALANS



013671-013677-0103

IS A DONKEY BOILER FITTED? *yes two* If so, is a report now forwarded? *yes*

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 *Supplied complete as per rules.*

The foregoing is a correct description.  
**SOCIEDAD ESPAÑOLA DE CONSTRUCCIÓN NAVAL**  
*Antonio L. Guinovart* Manufacturer.

Dates of Survey while building  
 During progress of work in shops: 1932 April 15 - May 18 - June 3-10-29 July 5-13-27 Aug 10-16-29 Sept 15-22 Oct 2-18-22-25-27 Nov 1-11-14-18-21-24-28  
 During erection board vessel: 1933 Jan 3-16-20-26 Feb 1-4-9-10-15-24-28 Mar 3-4-10-14-18-24 April 6-12-27-28 May 5-11-16-25-24 June 3-4-9-14-18-24  
 1934 Jan 5-12-15-20-24-29-31 Feb 1-5-12-15-14-20-21-25-24-26-28 March 1-2-5-9-12-13-14-16-19-20-26-28  
 Total No. of visits *135* April 2-5-4-9-10-13-16-18-20-21-22-24-25-24-30 May 2-4-8-12

Dates of Examination of principal parts—Cylinders  Covers  Pistons  Rods  Connecting rods   
 Crank shaft  Flywheel shaft  Thrust shaft  Intermediate shafts  Tube shaft   
 Screw shaft  Propeller  Stern tube  Engine seatings  Engines holding down bolts

Completion of fitting sea connections *June 3<sup>rd</sup> 33* Completion of pumping arrangements  Engines tried under working conditions *April 22<sup>nd</sup>*  
 Crank shaft, Material *SM Steel* Identification Mark  Flywheel shaft, Material *SM Steel* Identification Mark *23+28-6-33*  
 Thrust shaft, Material *SM Steel* Identification Mark  Intermediate shafts, Material *SM Steel* Identification Marks *11-44-13*  
 Tube shaft, Material  Identification Mark  Screw shaft, Material *SM Steel* Identification Mark *11-54-53*

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 *"Campeche"*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The above machinery has been mounted on board under special survey in accordance with the Society's Rules and Regulations. The workmanship quite good, all pipes, valves, cocks & connections have been tested by hydraulic pressure in accordance with the rules.*

*The alignment of shafting carefully checked and found correct.  
 The main motors and all auxiliary machinery and their accessories have been officially tested at sea and found to be satisfactory.  
 The safety valves of air receivers were adjusted to 30 lb.  
 In my opinion this vessel's machinery is eligible to be entered in the Register Book with notation of LMC 5-34.*

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

The amount of Entry Fee ...	£ 60-0-0	When applied for, 18 <sup>th</sup> Apr. 1934
Special ...	£ :	
Donkey Boiler Fee ...	£ :	When received, 18 <sup>th</sup> Apr. 1934
Travelling Expenses (if any) £	:	

*W. H. Stael*  
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute **FRL 15 JUN 1934**  
 Assigned *+ L.M.C. 5,34*  
*Oil Eng. F.D. C.L. 2 DR 150.00*

