

# REPORT ON OIL ENGINE MACHINERY

Received at London Office

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Date of writing Report 6th July 1956 When handed in at Local Office 17.7.56 Port of BILBAO

No. in Survey held at Santander Date, First Survey 1st March 1955 Last Survey 11th June 1956  
Reg. Book. N.E. No 9 Number of Visits 16

35565 on the Single Screw vessel Motor Vessel "SAN FLORO" Tons Gross 644 Net 250

Built at Santander By whom built Corcho Hijos, S.A. Yard No. 65 When built 1956

Engines made at Kiel-Friedrichsort By whom made Messrs. MAK Maschinenbau Kiel Engine No. 10648 When made 1956

Donkey Boilers made at None By whom made - Boiler No. - When made -

Brake Horse Power { Maximum - Owners Jose Manuel Pombo Romero-Robledo Port belonging to Santander  
Service 1150

I.N. as per Rule 230 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended Coaster

IL ENGINES, &c. — Type of Engines Heavy oil- MAK type MSu582A 2 or 4 stroke cycle Single or double acting

Maximum pressure in cylinders - Diameter of cylinders - Length of stroke - No. of cylinders - No. of cranks -

Mean Indicated Pressure - Span of bearings (i.e., distance between inner edges of bearings in

line of a crank) - Is there a bearing between each crank - Revolutions per minute { Maximum 176 Service -

Flywheel dia. - Weight - Moment of inertia of flywheel (in<sup>2</sup> or Kg.cm<sup>2</sup>) - Means of ignition - Kind of fuel used -

Crank Shaft, { Solid forged See dia. of journals as per Rule Crank pin dia. as fitted Crank webs Mid. length breadth - Thickness parallel to axis -  
Semi built See Crank webs Mid. length thickness - Thickness around eye-hole -  
All built See

Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as fitted Thrust Shaft, diameter at collars as per Rule  
200 mm. 200 mm. 220 mm.

Stern Tube Shaft, diameter as per Rule Screw Shaft, diameter as fitted Is the tube shaft fitted with a continuous liner { Yes  
210 mm. 210 mm.

Bronze Liners, thickness in way of bushes as per Rule Thickness between bushes as fitted Is the after end of the liner made watertight in the  
15 mm. 10 mm. Yes

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 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 light If two liners are fitted, is the shaft lapped or protected between the liners - Is an approved Oil Gland fitted at the after  
end of stern tube No If so, state type - Length of bearing in Stern Bush next to and supporting propeller 765 mm.

Propeller, dia. 2320 mm. Pitch 1290 mm. No. of blades 4 Material bronze whether moveable fixed Total developed surface 1.902 sq. feet

Moment of inertia of propeller including entrained water (lbs. in<sup>2</sup> or Kg.cm<sup>2</sup>) GD<sup>2</sup>=850 Kg/m<sup>2</sup> Kind of damper, if fitted friction

Method of reversing Engines direct Is a governor or other arrangement fitted to prevent racing of the engine Yes Means of  
lubrication forced Thickness of cylinder liners 30 mm. Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled  
and 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 Funnel Cooling Water Pumps, No. and how driven 4 M. Eng. & Elec. Motors Working F.W. 1-25 T/h.

Working F.W. 1-43 m<sup>3</sup>/h. Spare F.W. 1-45 m<sup>3</sup>/h. W 1-25 T/h. 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. and capacity 1 - 43 m<sup>3</sup>/h. Can one be overhauled while the other is at work Yes

Pumps connected to the Main Bilge Line { No. and capacity of each 3 - 1-43 m<sup>3</sup>/h., 1-25 m<sup>3</sup>/h., 1-35 T/h.  
How driven M. Eng. Electric Motors

Is the cooling water led to the bilges No 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 capacity 1-25 T/h. Power Driven Lubricating Oil Pumps, including spare pump, No. and size 2-3000 L/min. - 1 of 20 T/h.

Are two independent means arranged for circulating water through the Oil Cooler Yes Branch Bilge Suctions 12

No. and size: — In machinery spaces 8: 1 of 4" Ø - 7 of 3" Ø In pump room None

In holds, etc. No. 1 hold, 2 of 3" Ø - No. 2 hold, 2 of 3" Ø.

Direct Bilge Suctions to the engine room bilges, No. and size 1 of 4" Ø - 2 of 3" Ø.

Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes Yes Are the bilge suction 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 on boxes Are they fitted with valves or cocks Valves Are they fixed  
efficiently 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 below

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 None

What pipes pass through the bunkers None How are they protected -

What pipes pass through the deep tanks None 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 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 None 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 Steel vessel

Main Air Compressors, No. One No. of stages 2 diameters 120(120-108) stroke 70 mm. driven by M. Eng.

Auxiliary Air Compressors, No. One No. of stages 2 diameters 100/35 stroke 80 mm. driven by Aux. Oil Eng.

Small Auxiliary Air Compressors, No. None No. of stages - diameters - stroke - driven by -

What provision is made for first charging the air receivers Hand start Diesel Eng. driving Auxiliary Compressor

Scavenging Air Pumps or Blowers, No. One VTR 320/120 How driven exhaust gas

Auxiliary Engines Have they been made under survey No Engine Nos. 67116558 and 67162023

Makers' name General Motor Corporation, Detroit Position of each in engine room Eng. Room (p. and s.)  
Report No. 1828 Cert.

011421-011426-0080

Registered  
Foundation

**AIR RECEIVERS:**—Have they been made under survey Yes State No. of report or certificate Hno.C.50/504-56/55/55  
 State full details of safety devices Spring loaded safety valves & fusible plugs fitted in each receiver.  
 Can the internal surfaces of the receivers be examined and cleaned Yes Is a drain fitted at the lowest part of each receiver Yes  
 Injection Air Receivers, No. None - Cubic capacity of each - Internal diameter - thickness -  
 Seamless, welded or riveted longitudinal joint - Material - Range of tensile strength - Working pressure -  
 Starting Air Receivers, No. 3 Total cubic capacity 3x600 Lts. Internal diameter 492 mm. thickness 14 mm.  
 Seamless, welded or riveted longitudinal joint Welded Material Steel Range of tensile strength as per Rule Working pressure 40 Atm.

**IS A DONKEY BOILER FITTED** No 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 28.10.55 (Ham.) Receivers - Separate fuel tanks 4.6  
 (If not, state date of approval)  
 Donkey boilers - General pumping arrangements 2.5.55 Pumping arrangements in machinery space 2.5.55  
 Oil fuel burning arrangements -

Have Torsional Vibration characteristics been approved Yes Date and particulars of approval 12.1.56 for a service speed 300 RPM. subject to the torsiograph report now submitted being approved in London Office.  
**SPARE GEAR.**

Has the spare gear required by the Rules been supplied Yes State if for "short voyages" only -  
 State the principal additional spare gear supplied as per enclosed list.

Crankcase Relief Devices.— This engine is provided with 6 automatic valves of 105 mm. dia.

**CORCHO HIJOS, S. A.**

DIRECTOR-GERENTE  
 The foregoing is a correct description,  
 x Alvario Magetua Manufacturer.

Dates of Survey while building  
 During progress of work in shops ALVARO MAGETUA  
 During erection on board vessel From 1-3-55 to 11-6-56  
 Total No. of visits 16

Dates of examination of principal parts—Cylinders See Covers Kiel Pistons Report Rods No. Connecting rods 1476  
 Crank shaft Flywheel shaft - Thrust shaft 24.4.56 Intermediate shafts 24.4.56 Tube shaft None  
 Screw shaft 24.4.56 Propeller 14.2.56 Stern tube 24.1.56 Engine seatings 30.9.55 Engine holding down bolts 28.5.56  
 Completion of fitting sea connections 23.11.55 Completion of pumping arrangements 30.5.56 Engines tried under working conditions 0.7.11.6  
 Crank shaft, material S.M. Steel Identification mark HAB 9.7.53 Flywheel shaft, material - Identification mark Lloyds H  
 Thrust shaft, material S.M. Steel Identification mark 828 28.7.55 Intermediate shafts, material S.M. Steel Identification mark 848 HL.27  
 Tube shaft, material - Identification mark - Screw shaft, material S.M. Steel Identification mark Lloyds Hno. 827 HL.25.1  
 Identification marks on air receivers No. 2350 - Lloyds Test Hno. 64 Atm. W.P.40 Atm. H.L. 10.11.55  
No. 2332 - " " " 64 " W.P.40 " K.M. 24.10.55  
No. 2329 - " " " 64 " W.P.40 " K.M. 24.10.55

Welded receivers, state Makers' Name Messrs. Ruhrstahl Ag., Presswerke, of Brackwede.  
 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  
 Full description of fire extinguishing apparatus fitted in machinery spaces 2 hydrants & 1 foam extinguisher of 50 Lts. & 3 chemical extinguishers of 10 Lts. in E.R. - 3 chemical extin of 10 Lts. fitted near the E.R. entrance door (outsid  
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo No If so, have the requirements of the Rules been complied with -

What is the special notation desired -  
 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, Speed restrictions, &c.) The machinery of this vessel has been satisfactorily installed under Special Survey in accordance with the Rules, approved plans and Secretary's letters. Material used and workmanship are good. Satisfactory full power sea trials have been carried out. This machinery in my opinion is entitled to be classed in this Society with the record of IMC 6,56 and notation of CL (Screw shaft) "Oil Eng." when the torsional vibration characteristics have been approved with the torsiograph records how forwarded to London Office for verification.

**Enclosures:**— Machinery plans, — Auxiliary Engines, Air receivers, and Forging Certificates.  
 List of spare pieces — Copy of interim Certificate.

**During construction**  
 The amount of Entry Fee ... Ptas. 8602  
 Auxiliary Oil Eng. Special 2000  
 Pumps 600 When applied for 17.7.56  
 Donkey Boiler Fee... £ : : When received 19  
 Travelling Expenses (if any) £ : :

Francisco  
 Engineer Surveyor to Lloyd's Register of Shipping.  
  
 Lloyd's Register Foundation

Committee's Minute FRIDAY - 7 SEP 1956  
 Assigned IMC 6.56  
CL.

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