

REPORT ON OIL ENGINE MACHINERY.

No. 8673

Received at London Office 4 OCT 1935

24th Sept 35 When handed in at Local Office 28th Sept 35 Port of Bilbao
 Date, First Survey 4th Dec. 1933 Last Survey 21st Sept 1935
 Number of Visits 75.

in Survey held at Bilbao
 9. Book. 900 on the Single Twin Triple Quadruple Screw vessel 3 FERNANDO POO
 Tons { Gross 6914
 Net 3866
 Built at Bilbao By whom built Cia. Euskalduna de Const. Yard No. 97 When built 1935
 Engines made at Barcelona By whom made Maquinista Terrestre y Maritima Engine No. 324 When made 1935
 Boiler No. 130 When made 1935
 By whom made Cia. Euskalduna de Const.
 Owners Cia. Incomediterranea Port belonging to Valencia
 Brake Horse Power 5000
 Is Refrigerating Machinery fitted for cargo purposes yes Is Electric Light fitted yes
 Com. Horse Power as per Rule 1240
 Made for which vessel is intended Cargo + passenger. 24 1/2 45 4

ENGINES, &c.—Type of Engines Vertical Diesel oil engs. Xhead type 2 or 4 stroke cycle 2 Single or double acting Single
 Maximum pressure in cylinders 49.2 kg/cm² Diameter of cylinders 620 mm Length of stroke 11502 No. of cylinders 2 x 6 No. of cranks 2 x 6
 An of bearings, adjacent to the Crank, measured from inner edge to inner edge 963 7 Is there a bearing between each crank yes
 Revolutions per minute 120 Flywheel dia. 6.0 m Weight 6455 kg Means of ignition Air Comp. Kind of fuel used Bude oil 57 atom
 Crank Shaft, dia. of journals 388 as per Rule 388 Crank pin dia. 410 Crank Webs 630 Mid. length breadth 630 Thickness parallel to axis 250
 as fitted 410 as fitted 165 mm as fitted 283.6 Thrust Shaft, diameter at collars 297.8
 as per Rule 388 Intermediate Shafts, diameter 330 as fitted 400
 as fitted 400 as per Rule 306.5 Is the shaft shaft fitted with a continuous liner yes
 as fitted 356 as fitted 13
 Bronze Liners, thickness in way of bushes 17 as per Rule 17 Thickness between bushes 15 Is the after end of the liner made watertight in the
 as fitted 21 as fitted 15
 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 fit
 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 yes If so, state type yes Length of Bearing in Stern Bush next to and supporting propeller 1860
 Propeller, dia. 2734 Pitch 4953 No. of blades 3 Material Mn. St. whether Moveable No Total Developed Surface 4.394 sq. m

Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when disengaged yes Means of lubrication
forced Thickness of cylinder liners 33 least 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 yes
 Cooling Water Pumps, No. 2 Centrif. 203 250 m³/hr. 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 Diameter 125 Stroke 100 mm Can one be overhauled while the other is at work yes
 Pumps connected to the Main Bilge Line { No. and Size 1 Centrif. 100 100 m³/hr. Plunger type 15 m³/hr. & Ballast pump.
 How driven electric motors 2 M.E. Rotary 80 18 m³/hr. ea.
 Ballast Pumps, No. and size 1 Centrif. 203 250 m³/hr. Lubricating Oil Pumps, including Spare Pump, No. and size 2 Elec. motor driven Rotary
76 dia 45 m³/hr. each.
 Are two 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 5 x 76 mm dia. & 2 x 50 mm dia. (oil gutters) In Pump Room yes
 In Holds, &c. blain locker 1 x 76 mm Nos. 1, 2 & 3 holds 2 x 76 mm Nos. 4 & 5 holds 2 x 76 mm Tunnel well 1 x 89 mm.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size Ball pump 1 x 125 mm Bilge 1 x 125 mm Aux. Bilge 1 x 80 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 except main inlets Are they fitted with Valves or Cocks Valves except D.O. flow
 Inlet valves on C.S. ships side pipes yes Are the Overboard Discharges above or below the deep water line above
 Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates yes Are the Blow Off Cocks fitted with a spigot and brass covering plate yes
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel yes How are they protected yes
 What pipes pass through the bunkers None. Ball. & bilge sucts. Hrs. 193 2.5 Have they been tested as per Rule yes
 What pipes pass through the deep tanks 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 yes Is it fitted with a watertight door yes worked from Upper dk.

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. 1 No. of stages 3 Diameters 80-330-380 Stroke 180 Driven by Nos. 1 & 3 Aux
 Auxiliary Air Compressors, No. 2 No. of stages 3 Diameters 7-119 Stroke 120 Driven by Emergency eng.
 Small Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 7-119 Stroke 120 Driven by main engine
 Scavenging Air Pumps, No. 2 x 3 Diameter 715 Stroke 1150
 Auxiliary Engines crank shafts, diameter 135 mm as per Rule 135 mm as fitted yes

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. 1 Cubic capacity of each 10.68 m³ Internal diameter 1000 mm thickness 15 mm
 Seamless, lap welded or riveted longitudinal joint yes Range of tensile strength 45/50 kg Working pressure 65 kg
 Starting Air Receivers, No. 4 MAIN Total cubic capacity 400 litres Internal diameter 500 mm thickness 15 mm
1 AUX Range of tensile strength 45/50 kg Working pressure 65 kg
 Seamless, lap welded or riveted longitudinal joint Riveted Material Steel

W1132-0131

IS A DONKEY BOILER FITTED?

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

If so, is a report now forwarded? Yes

PLANS. Are approved plans forwarded herewith for Shifting Yes

Donkey Boilers 30.5.34

General Pumping Arrangements 4.1.34

Receivers MAIN 9.6.33
AUX. 15.11.33

Separate Tanks

9.4.34

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 - M.E. crosshead complete, 1 cylinder liner, upper & lower spur wheels for chain drive of crankshaft, 1 complete chain for cam shaft drive & 2 sets spare links. 2 sets bottom end bearings & 1 set top end bearings. 1 fuel valve, 1 air starting valve, 1 cylinder safety valve. 1 piston with ring complete, 3 cylinder covers without valves. 2 piston rods. 1 lubricating pump for crossheads. 1 tail shaft & 2 cast iron propellers.

INTERMEDIATE SHAFTS IDENTIFICATION MARKS:-

LLOYD'S NO. 326	345	368	374	381	404	328	329	336	347	402	405
21.8.33	15.9.33	28.9.33	6.10.33	10.10.33	3.11.33	24.8.33	24.8.33	1.9.33	15.9.33	3.11.33	3.11.33
G.D.	G.D.	G.D.	G.D.	G.D.	G.D.	G.D.	G.D.	G.D.	G.D.	G.D.	G.D.

The foregoing is a correct description of the machinery and equipment of the vessel.

SUB-DIRECTOR

Dates of Survey while building
 During progress of work in shops - 1933 Dec. 4 1934 Jan. 9 Feb. 15, 22 Mar. 5, 8, 13, 15 April 3, 12, 13, 17, 18, 23, 26 Jun. 8, 9
 During erection on board vessel - Aug. 11, 30, 31. Sept. 8 Oct. 4, 25, 31. Nov. 8, 21. Dec. 3, 4, 20, 28. 1935 Jan. 9, 14, 25, 31. Feb. 22, 28. Mar. 5, 6, 13, 22, 23, 25, 26, 27 Apr. 3, 11, 15, 23 May 20 Jun. 7, 11, 13, 17, 21, 27 July 1, 3, 4, 9, 13, 23, 26
 Total No. of visits 75

Dates of Examination of principal parts - Cylinders P. 13.7.35 Covers P. 13.7.35 Pistons P. 13.7.35 Rods P. 13.7.35 Connecting rods P. 9.7.35
 Crank shaft P. 13.6.35 Flywheel shaft P. 13.6.35 Thrust shaft P. 13.6.35 Intermediate shafts P. 31.10.35 Tube shaft P. 3.7.35
 Screw shaft P. 22.8.35 Propeller P. 22.8.35 Stern tube P. 22.8.35 Engine seatings 8.9.34 Engines holding down bolts 3.13.2.35

Completion of fitting sea connections 3.4.34 Completion of pumping arrangements 20.9.35 Engines tried under working conditions 15.9.35

Crank shaft, Material Identification Mark As Bcl. Rpt. Flywheel shaft, Material Identification Mark As Bcl. Rpt.
 Thrust shaft, Material Identification Mark " Intermediate shafts, Material Steel Identification Marks as above.
 Tube shaft, Material Identification Mark " Screw shaft, Material Steel Identification Mark P. 346-15.9.33

Is the flash point of the oil to be used over 150° F. Yes Identification Mark 3.517-30.8.34
 Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with Yes SPARE 330-29.8.33

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 ✓

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 DOMINE.

General Remarks (State quality of workmanship, opinions as to class, &c.) This machinery has now been satisfactorily fitted on board the vessel in accordance with the approved plans, Siemens's letters & the Society's Rules & regulations. The material & workmanship were found to be good. See also Bcl. Rpt. No. 4208. The machinery has been tested under full working conditions and found satisfactory. 16 consecutive starts obtained each engine without replenishing air receivers.

The machinery of this vessel is in our opinion eligible to be classed with the notation in the Register Book of LMC 9.35

The amount of Entry Fee 1/5. 2/5: 45 =

Special 1/5. 2/5: 14.15 =

Donkey Boiler Fee ✓

Travelling Expenses (if any) 1/5. 2/5: 45 =

Committee's Minute 22 NOV 1935

Assigned + Lmb. 9.35 Oil Svc

FOR J.C. KENDALL & SELF G. Dixon.

Engineer Surveyor to Lloyd's Register of Shipping.



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Has the Steel been tested as required by the Rules?