

# REPORT ON OIL ENGINE MACHINERY.

No. 4438  
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Port of LISBON

Survey held at LISBON  
Book.

Date, First Survey 1st. November Last Survey 3rd. November 47  
Number of Visits TWO

421 on the ~~Single~~ ~~Triple~~ ~~Quadruple~~ Twin Screw vessel SHELL I5 (Self Propelled Tanker Barge).  
(Machinery Aft.)

Tons { Gross 216  
Net 120

built at Haarlem By whom built Haarlemsche Schb. Miu Yard No. When built 1924

Engines made at Amsterdam By whom made Kromhout Engine No. 4159 When made 1927

Boilers made at - By whom made - Boiler No. - When made -

Indicated Horse Power Approx. 100 each. Owners Shell Company of Portugal Port belonging to Lisbon

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

Service for which vessel is intended Coasting services between Oporto, Gibraltar and Tangers

ENGINES, &c. Type of Engines Gas Oil Semi-Diesel 2 or 4 stroke cycle 2 Single or double acting Single

Minimum pressure in cylinders Diameter of cylinders 336 mm. Length of stroke 350 mm. No. of cylinders 2 No. of cranks 2

Distance between bearings, adjacent to the Crank, measured from inner edge to inner edge 425 mm. Is there a bearing between each crank Yes

Revolutions per minute 320 Flywheel dia. 1100 mm Weight 1160 Kg. Means of ignition Hot Bulb Kind of fuel used Gas Oil

Crankshaft, Solid forged dia. of journals as per Rule as fitted 120 mm. Crank pin dia. 120 mm. Crank Webs Mid. length breadth 150 mm. Thickness parallel to axis -

Intermediate Shafts, diameter as per Rule as fitted 99 mm Thrust Shaft, diameter at collars as per Rule as fitted 99 mm

Propeller Shaft, diameter as per Rule as fitted - Screw Shaft, diameter as per Rule as fitted 4 ins. Is the screw shaft fitted with a continuous liner No. Two Lengths at Bushes

Bronze Liners, thickness in way of bushes as per Rule as fitted 3/8 ins. Thickness between bushes as per Rule as fitted - 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 -

Does the liner do 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 -

Are two liners fitted, is the shaft lapped or protected between the liners no Is an Oil Gland or other appliance fitted at the after end of the tube

Length of Bearing in "A" Bracket next to and supporting propeller 314 mm

Propeller, dia. 3'-9" Pitch 3'-2 1/2" No. of blades 3 Material Bronze whether Moveable No Total Developed Surface 4.25 sq. feet

Method of reversing Prop. Clutch & Gear a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication

Oil Lub. Thickness of cylinder liners None Are the cylinders fitted with safety valves No Are the exhaust pipes and silencers water cooled or lagged with

Insulating material Water Cooled If the exhaust is led to funnel

Boiling Water Pumps, No. One & Bilge Pump (each 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. One Eng. Diameter 3 3/4 ins Stroke 3 ins. Can one be overhauled while the other is at work Other Engine

Pumps connected to the Main Bilge Line No. and Size As above How driven Driven by eccentric on each engine shaft.

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 size One Cargo Pump 9" x 12" Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size None

Are there two independent means arranged for circulating water through the Oil Cooler - Suctions, connected to both Main Bilge Pumps and to Bilge

Pumps, No. and size: - In Machinery Spaces 3, 2 1/2 in. In Pump Room -

Holds, &c. -

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size none

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes Are the Bilge Suctions in the Machinery Spaces

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 sized sufficiently high on the ship's side to be seen without lifting the platform plates no 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 -

How are they protected -

Do all pipes pass through the bunkers - Have they been tested as per Rule -

Do all pipes pass through the deep tanks -

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery 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

apartment to another yes Is the Shaft Tunnel watertight none Is it fitted with a watertight door - worked from -

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

Main Air Compressors No. Ford, M.E. Cylinder No. of stages One Diameters 336 MM Stroke 350 MM Driven by Main Engine

Auxiliary Air Compressor No. One No. of stages One Diameters 76 MM Stroke 76 MM Driven by Belt & Elec. Mtr.

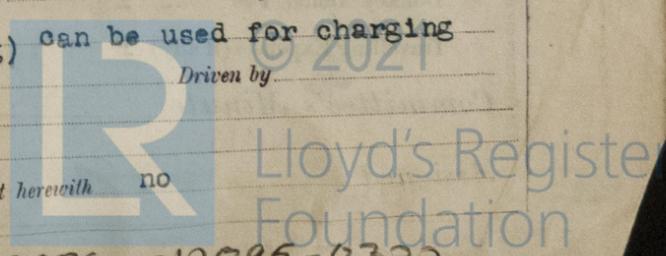
Small Auxiliary Air Compressors, No. - No. of stages - Diameters - Stroke - Driven by -

Is there any provision made for first Charging the Air Receivers Exhaust of Aux. Engine (Hand starting) can be used for charging

Refrigerating Air Pumps, No. none Diameter - Stroke - Driven by -

Auxiliary Engines crank shafts, diameter as per Rule as fitted not examined at this time Position -

Have the Auxiliary Engines been constructed under special survey no Is a report sent herewith no



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AIR RECEIVERS:—Have they been made under survey no State No. of Report or Certificate -

Is each receiver, which can be isolated, fitted with a safety valve as per Rule no

Can the internal surfaces of the receivers be examined and cleaned with difficulty a drain fitted at the lowest part of each receiver yes

Hot bulb Blower & Whistle Three Cubic capacity of each 75 & 40 litre Internal diameter 254 & 203 thickness 6.5 & 6.4

Seamless, lap welded or riveted longitudinal joint Seamless Material Steel Range of tensile strength - Working pressure by Rules Actual 16 k/sc.cm

Starting Air Receivers, No. Two Total cubic capacity - Internal diameter - thickness -

Seamless, lap welded or riveted longitudinal joint - Material Steel Range of tensile strength - Working pressure by Rules Actual 230lbs/sc.

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 part 19-5-47 Receiver (Part) 19-5-47 Separate Fuel Tanks -

Donkey Boilers - General Pumping Arrangements - Pumping Arrangements in Machinery Space No. 8884  
5-5-47

Oil Fuel Burning Arrangements - **SPARE GEAR.**

Has the spare gear required by the Rules been supplied Yes

State the principal additional spare gear supplied -

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 -

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 sealings - Engines holding down bolts -  
Completion of fitting sea connections - Completion of pumping arrangements - Engines tried under working conditions -  
Crank shaft, Material - Identification Mark - Flywheel shaft, Material - Identification Mark -  
Thrust shaft, Material - Identification Mark - Intermediate shafts, Material - Identification Marks -  
Tube shaft, Material - Identification Mark - Screw shaft, Material - Identification Mark -  
Identification Marks on Air Receivers -

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 not complete

Is the vessel (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 -

Is this machinery duplicate of a previous case - If so, state name of vessel -

General Remarks (State quality of workmanship, opinions as to class, &c.)

In my opinion these engines are not suitable for classification without extensive modification, alteration, and repairs. See letter herewith.

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

The amount of Entry Fee	<u>not yet charged.</u>	When applied for,
Special	£	19
Donkey Boiler Fee	£	When received,
Travelling Expenses (if any)	£	19

Committee's Minute

Assigned

See minute dated 4.11.47 on his 44411

Jas. H. Naini  
Engineer Surveyor to Lloyd's Register of Shipping.



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