

Rpt. 4b.

# REPORT ON <sup>Auxy</sup> OIL ENGINE MACHINERY.

No. 13523

Received at London Office 22 SEP 1936

Date of writing Report 19 When handed in at Local Office 19

Port of BRISTOL

No. in Survey held at DURSLEY  
Reg. Book.

Date, First Survey 20 July

Last Survey 1st Sept 1936

Number of Visits 3

Single }  
on the Twin } Screw vessel  
Triple }  
Quadruple }

Tons { Gross  
Net

Built at \_\_\_\_\_ By whom built \_\_\_\_\_ Yard No. \_\_\_\_\_ When built \_\_\_\_\_  
 Engines made at Dursley By whom made A.A. Lester & Co. Engine No. 20960 When made 1936  
 Donkey Boilers made at \_\_\_\_\_ By whom made \_\_\_\_\_ Boiler No. \_\_\_\_\_ When made \_\_\_\_\_  
 Brake Horse Power 3.5 Owners \_\_\_\_\_ Port belonging to \_\_\_\_\_  
 Nom. Horse Power as per Rule \_\_\_\_\_ Is Refrigerating Machinery fitted for cargo purposes \_\_\_\_\_ Is Electric Light fitted \_\_\_\_\_  
 Trade for which vessel is intended \_\_\_\_\_

**IL ENGINES, &c.**—Type of Engines Compression Ignition (3-1) 2 or 4 stroke cycle 4 Single or double acting Single  
 Maximum pressure in cylinders 700 lbs Diameter of cylinders 3.75 Length of stroke 5 1/2 No. of cylinders one No. of cranks one  
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 7 1/2 Is there a bearing between each crank   
 Revolutions per minute 600 Flywheel dia. 24 Weight 21 lbs Means of ignition Compression Kind of fuel used Diesel Oil  
 Crank Shaft, dia. of journals as per Rule \_\_\_\_\_ as fitted 2 Crank pin dia. 2 1/2 Crank Webs Mid. length breadth 3 Thickness parallel to axis \_\_\_\_\_  
 Flywheel Shaft, diameter as per Rule \_\_\_\_\_ as fitted 2 Intermediate Shafts, diameter as per Rule \_\_\_\_\_ as fitted \_\_\_\_\_ Thrust Shaft, diameter at collars as per Rule \_\_\_\_\_ as fitted \_\_\_\_\_  
 Tube Shaft, diameter as per Rule \_\_\_\_\_ as fitted \_\_\_\_\_ Screw Shaft, diameter as per Rule \_\_\_\_\_ as fitted \_\_\_\_\_ Is the { tube } shaft fitted with a continuous liner {  screw }  
 Bronze Liners, thickness in way of bushes as per Rule \_\_\_\_\_ as fitted \_\_\_\_\_ Thickness between bushes as per rule \_\_\_\_\_ as fitted \_\_\_\_\_ Is the after end of the liner made watertight in the propeller boss \_\_\_\_\_  
 If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner \_\_\_\_\_  
 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 \_\_\_\_\_  
 If two liners are fitted, is the shaft lapped or protected between the liners \_\_\_\_\_ Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft \_\_\_\_\_ If so, state type \_\_\_\_\_ Length of Bearing in Stern Bush next to and supporting propeller \_\_\_\_\_

Propeller, dia. \_\_\_\_\_ Pitch \_\_\_\_\_ No. of blades \_\_\_\_\_ Material \_\_\_\_\_ whether Moveable \_\_\_\_\_ Total Developed Surface \_\_\_\_\_ sq. feet  
 Method of reversing Engines \_\_\_\_\_ Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication  splash   
 Thickness of cylinder liners .5 Are the cylinders fitted with safety valve Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material No If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine \_\_\_\_\_

Cooling Water Pumps, No. \_\_\_\_\_ Is the sea suction provided with an efficient strainer which can be cleared within the vessel \_\_\_\_\_  
 Bilge Pumps worked from the Main Engines, No. \_\_\_\_\_ Diameter \_\_\_\_\_ Stroke \_\_\_\_\_ Can one be overhauled while the other is at work \_\_\_\_\_  
 Pumps connected to the Main Bilge Line { No. and Size \_\_\_\_\_ How driven \_\_\_\_\_ }  
 Ballast Pumps, No. and size \_\_\_\_\_ Lubricating Oil Pumps, including Spare Pump, No. and size \_\_\_\_\_  
 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 \_\_\_\_\_  
 In Holds, &c. \_\_\_\_\_

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size \_\_\_\_\_  
 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes \_\_\_\_\_ Are the Bilge Suctions in the Machinery Spaces ed from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges \_\_\_\_\_  
 Are all Sea Connections fitted direct on the skin of the ship \_\_\_\_\_ Are they fitted with Valves or Cocks \_\_\_\_\_  
 Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates \_\_\_\_\_ Are the Overboard Discharges above or below the deep water line \_\_\_\_\_  
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel \_\_\_\_\_ Are the Blow Off Cocks fitted with a spigot and brass covering plate \_\_\_\_\_  
 What pipes pass through the bunkers \_\_\_\_\_ How are they protected \_\_\_\_\_  
 What pipes pass through the deep tanks \_\_\_\_\_ 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 \_\_\_\_\_  
 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 \_\_\_\_\_ Is the Shaft Tunnel watertight \_\_\_\_\_ 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 \_\_\_\_\_  
 Main Air Compressors, No. \_\_\_\_\_ No. of stages \_\_\_\_\_ Diameters \_\_\_\_\_ Stroke \_\_\_\_\_ Driven by \_\_\_\_\_  
 Auxiliary Air Compressors, No. \_\_\_\_\_ No. of stages \_\_\_\_\_ Diameters \_\_\_\_\_ Stroke \_\_\_\_\_ Driven by \_\_\_\_\_  
 Small Auxiliary Air Compressors, No. \_\_\_\_\_ No. of stages \_\_\_\_\_ Diameters \_\_\_\_\_ Stroke \_\_\_\_\_ Driven by \_\_\_\_\_  
 scavenging Air Pumps, No. \_\_\_\_\_ Diameter \_\_\_\_\_ Stroke \_\_\_\_\_ Driven by \_\_\_\_\_  
 Auxiliary Engines crank shafts, diameter as per Rule \_\_\_\_\_ as fitted \_\_\_\_\_

**RECEIVERS:**—Is each receiver, which can be isolated, fitted with a safety valve as per Rule \_\_\_\_\_  
 Can the internal surfaces of the receivers be examined \_\_\_\_\_ What means are provided for cleaning their inner surfaces \_\_\_\_\_  
 Is there a drain arrangement fitted at the lowest part of each receiver \_\_\_\_\_  
 High Pressure Air Receivers, No. \_\_\_\_\_ Cubic capacity of each \_\_\_\_\_ Internal diameter \_\_\_\_\_ thickness \_\_\_\_\_  
 Seamless, lap welded or riveted longitudinal joint \_\_\_\_\_ Material \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_  
 Starting Air Receivers, No. \_\_\_\_\_ Total cubic capacity \_\_\_\_\_ Internal diameter \_\_\_\_\_ thickness \_\_\_\_\_  
 Seamless, lap welded or riveted longitudinal joint \_\_\_\_\_ Material \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting 25/10/34 Receivers ✓ Separate Tanks ✓  
(If not, state date of approval)

Donkey Boilers ✓ General Pumping Arrangements ✓ Oil Fuel Burning Arrangements ✓

SPARE GEAR

The foregoing is a correct description,

Respectfully,  
Respectfully A.A. Lester & Co. (Maine Sales Dept) Manufacturer.

Dates of Survey while building  
 During progress of work in shops - 20<sup>th</sup> July. 20<sup>th</sup> Aug. 1<sup>st</sup> Sept.  
 During erection on board vessel - ✓  
 Total No. of visits 3.

Dates of Examination of principal parts—Cylinders 20-8-36 Covers 20-8-36 Pistons 20-8-36 Rods ✓ Connecting rods 20-8-36  
 Crank shaft 20-8-36 Flywheel shaft 20-8-36 Thrust shaft ✓ Intermediate shafts ✓ Tube shaft ✓  
 Screw shaft ✓ Propeller ✓ Stern tube ✓ Engine seatings ✓ Engines holding down bolts on test bed  
 Completion of fitting sea connections ✓ Completion of pumping arrangements ✓ Engines tried under working conditions 1-9-36  
 Crank shaft, Material Steel Identification Mark M468 Flywheel shaft, Material Steel Identification Mark M468  
 Thrust shaft, Material ✓ Identification Mark ✓ Intermediate shafts, Material ✓ Identification Marks ✓  
 Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material ✓ Identification Mark ✓

Is the flash point of the oil to be used over 150° F. ✓  
 Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with ✓  
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo ✓ If so, have the requirements of the Rules 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.)

All parts of this engine have been exam<sup>d</sup> before being assembled, found satisfactory & afterwards tested on the test bed

It has been sent to the Hamworthy Engineering Co., then run N° 57695 (Lester run N° M639) & stated to be for Messrs. Keekers Armstrongs Yara N° 72.

The amount of Entry Fee	£	:	:	When applied for,
Special	£	3	3	0 21 24 Sept. 19 36
Donkey Boiler Fee	£	:	:	When received,
Travelling Expenses (if any)	£	3	0	27.8 36 28/10

John L. Gwynne & Co. S. Macfarlane  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 18 MAR 1938

Assigned See Row 2687



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

187 A.A. O.V. see Row Npt 16 2670