

Rpt. 4b.

# REPORT ON OIL ENGINE MACHINERY.

No. 2293

Date of writing Report 24 May 1923 When handed in at Local Office 19 Port of Stockholm Received at London Office MON. MAY. 28 1923

No. in Survey held at Reg. Book 253 Date, First Survey C 20 Last Survey 19  
Number of Visits 19

on the Single } Screw vessels  
Twin }  
Triple }

Master \_\_\_\_\_ Built at \_\_\_\_\_ By whom built \_\_\_\_\_ Yard No. \_\_\_\_\_ When built \_\_\_\_\_

Engines made at Stockholm By whom made J. & C. G. Bolinder's Co Ltd Engine No. 15180/83 When made 1923

Donkey Boilers made at \_\_\_\_\_ By whom made \_\_\_\_\_ Boiler No. \_\_\_\_\_ When made \_\_\_\_\_

Brake Horse Power 160 Owners Artilleros de Gijon Port belonging to Gijon

Net Horse Power as per Rule 46 Is Refrigerating Machinery fitted for cargo purposes \_\_\_\_\_ Is Electric Light fitted \_\_\_\_\_

**L ENGINES, &c.**—Type of Engines Bolinder Oil Engine 2 or 4 stroke cycle Single or double acting

Maximum pressure in cylinders 17 kg/cm No. of cylinders 4 No. of cranks 4 Diameter of cylinders 300 mm

Length of stroke 310 mm Revolutions per minute 350 Means of ignition hot bulb Kind of fuel used Crude oil

Is there a bearing between each crank yes Span of bearings (Page 87, Section 3, par. 7 of Rules) 600 mm

Distance between centres of main bearings 600 mm Is a flywheel fitted yes Diameter of crank shaft journals 121 mm

Diameter of crank pins 128 mm Breadth of crank webs 161 mm Thickness of ditto 68 mm

Is flywheel fitted at fore end of the crank shaft \_\_\_\_\_ Diameter of tunnel shaft 116 mm

Diameter of flywheel shaft \_\_\_\_\_ Diameter of thrust shaft 118 mm

Diameter of screw shaft \_\_\_\_\_ Is the screw shaft fitted with a continuous liner the whole length of the stern tube \_\_\_\_\_

Is the after end of the liner made watertight in the propeller boss \_\_\_\_\_ If the liner is in more than one length are the joints burned \_\_\_\_\_

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 \_\_\_\_\_

When two liners are fitted, is the shaft lapped or protected between the liners \_\_\_\_\_ If without liners, is the shaft arranged to run in oil \_\_\_\_\_

Is a gland fitted to stern tube \_\_\_\_\_ Length of stern bush \_\_\_\_\_ Diameter of propeller \_\_\_\_\_

Number of blades \_\_\_\_\_ state whether moveable \_\_\_\_\_ Total surface \_\_\_\_\_ square feet

Method of reversing Timing Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Thickness of cylinder liners none fitted

Are the cylinders fitted with safety valves no Means of lubrication pumps Are the exhaust pipes and silencers water cooled or lagged with \_\_\_\_\_

Conducting material \_\_\_\_\_ If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine \_\_\_\_\_

No. of cooling water pumps 2 Is the sea suction provided with an efficient strainer which can be cleared \_\_\_\_\_

No. of bilge pumps fitted to the main engines 1 Diameter of ditto 100 mm Stroke 50 mm

Can one be overhauled while the other is at work \_\_\_\_\_ No. of auxiliary pumps connected to the main bilge lines \_\_\_\_\_ How driven \_\_\_\_\_

No. and sizes of suction connected to both main bilge pumps and auxiliary bilge pumps:—In engine room \_\_\_\_\_

No. of ballast pumps \_\_\_\_\_ How driven \_\_\_\_\_ Sizes of pumps \_\_\_\_\_

Is a ballast pump fitted with a direct suction from the engine room bilges \_\_\_\_\_ State size \_\_\_\_\_ Is a separate auxiliary pump suction fitted in \_\_\_\_\_

Are all the bilge suction pipes fitted with roses \_\_\_\_\_ Are the roses in Engine Room always accessible \_\_\_\_\_

Are the sluices on Engine Room bulkheads always accessible \_\_\_\_\_ Are all connections with the sea direct on the skin of the ship \_\_\_\_\_

Are they valves or cocks \_\_\_\_\_ Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates \_\_\_\_\_

Are the discharge pipes above or below the deep water line \_\_\_\_\_ Are they each fitted with a discharge valve always accessible on the plating of the vessel \_\_\_\_\_

Are all pipes, cocks, valves and pumps in connection with the machinery accessible at all times \_\_\_\_\_ Are the bilge suction pipes, cocks and valves arranged so as to prevent any \_\_\_\_\_

Communication between the sea and the bilges \_\_\_\_\_ Is the screw shaft tunnel watertight \_\_\_\_\_ Is it fitted with a watertight door \_\_\_\_\_

Is it fitted with a watertight door \_\_\_\_\_ If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork \_\_\_\_\_

Are the main air compressors none fitted No. of stages \_\_\_\_\_ Diameters \_\_\_\_\_ Stroke \_\_\_\_\_ Driven by \_\_\_\_\_

Are the auxiliary air compressors \_\_\_\_\_ No. of stages \_\_\_\_\_ Diameters \_\_\_\_\_ Stroke \_\_\_\_\_ Driven by \_\_\_\_\_

Are the small auxiliary air compressors \_\_\_\_\_ No. of stages \_\_\_\_\_ Diameters \_\_\_\_\_ Stroke \_\_\_\_\_ Driven by \_\_\_\_\_

Are the scavenging air pumps \_\_\_\_\_ Diameter \_\_\_\_\_ Stroke \_\_\_\_\_ Driven by \_\_\_\_\_

Are the air compressors and their coolers made so as to be easy of access \_\_\_\_\_

**RECEIVERS:—**No. of high pressure air receivers \_\_\_\_\_ Internal diameter \_\_\_\_\_ Cubic capacity of each \_\_\_\_\_

Are they \_\_\_\_\_ Seamless, lap welded or riveted longitudinal joint \_\_\_\_\_ Range of tensile strength \_\_\_\_\_

Working pressure by Rules \_\_\_\_\_ No. of starting air receivers 1 Internal diameter 434 mm

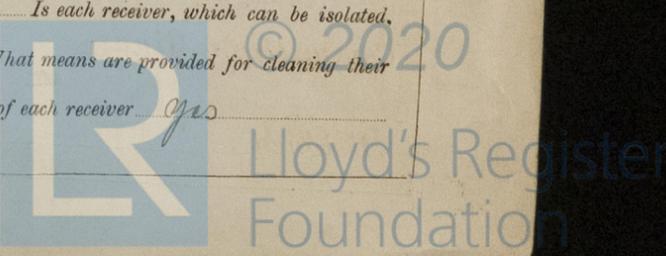
Cubic capacity 280 litres Material S. M. Steel Seamless, lap welded or riveted longitudinal joint lap welded

Working pressure by rules 257 lbs Is each receiver, which can be isolated, \_\_\_\_\_

Are they fitted with a safety valve as per Rule \_\_\_\_\_ Can the internal surfaces of the receivers be examined yes What means are provided for cleaning their \_\_\_\_\_

Are the surfaces \_\_\_\_\_ Is there a drain arrangement fitted at the lowest part of each receiver yes

007100 - 007115 - 0140



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

HYDRAULIC TESTS:--

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS .....	16.5.23	17 kg/sg. cm.	37 kg/sg. cm.	LLOYD'S TEST 37 kg At 16.5.23 A	
" " COVERS .....	16.5.23	ditto	ditto		
" " JACKETS .....	16.5.23	-	3.5 kg/sg. cm.		
" PISTON WATER PASSAGES .....	(open pistons)				
MAIN COMPRESSORS—1st STAGE .....	none fitted				
" 2nd " .....					
" 3rd " .....					
AIR RECEIVERS—STARTING .....	16.5.23	15 kg/sg. cm.	30 kg/sg. cm.	No 2234 LLOYD'S TEST 30 kg WP 15 kg At 16.5.23 A	
" INJECTION .....					
AIR PIPES .....					
FUEL PIPES .....					
FUEL PUMPS .....					
SILENCER .....	16.5.23	-	3.5 kg/sg. cm.	HYDR. TEST 3.5 kg At 16.5.23 A	
" WATER JACKET .....	16.5.23	-	ditto		
SEPARATE FUEL TANKS .....					

PLANS. Are approved plans forwarded herewith for shafting *Secretary's letter E 7.11.22* Receivers starting *E 8.3.16* Separate Tanks ~

SPARE GEAR to be supplied and inspected on delivery

The foregoing is a correct description.

Manufacturer.

Dates of Survey while building { During progress of work in shops - - } *16.20.23 / 1, 2.6.16 / 2, 9.16.19.23 / 5*  
 { During erection on board vessel - - }  
 Total No. of visits *9 in shop*

Dates of Examination of principal parts—Cylinders *9.16.23 / 5* Covers *9.16.23 / 5* Pistons *9.16.23 / 5* Rods - Connecting rods *16.6.9.16.23 / 7 2 5*  
 Crank shaft *20.6.16.16.23 / 7 2 5* Thrust shaft *16.23.2.16.23 / 1 2 5* Tunnel shafts - Screw shaft - Propeller - Stern tube - Engine seatings -  
 Engines holding down bolts - Completion of pumping arrangements - Engines tried under working conditions in shops *9 / 5 23*  
 Completion of fitting sea connections - Stern tube - Screw shaft and propeller -  
 Material of crank shaft *S.M. Steel* Identification Mark on Do. *LLOYD'S No 3236 At 16.2.23 A* Material of thrust shaft *S.M. Steel* Identification Mark on Do. *LLOYD'S No 3230 At 2.2.23 A*  
 Material of tunnel shafts - Identification Marks on Do. - Material of screw shafts - Identification Marks on Do.

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 *see Skm. Report no 2247*

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

*I am of opinion that this motor is of superior material and workmanship and as it has been designed and constructed under my special survey, I have respectfully to submit that it will be eligible to be classed \*LMC as soon as it has been fitted in a classed vessel to the satisfaction of the Society's Surveyors*

Certificate (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 ... £ : : When applied for,  
 Special Survey in shops.. £ 12 : 0 : 0 : *24 May 1923*  
 Donkey Boiler Fee ... £ : : When received,  
 Travelling Expenses (if any) £ : : *June 1923*

*A. Bakson*  
 Engineer Surveyor to Lloyd's Register of Shipping.  
 Assisted by Mr. K. J. Anderson

Committee's Minute

TUES. 2 MAR 1926

Assigned

*See Bel Dept No 2627*



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