

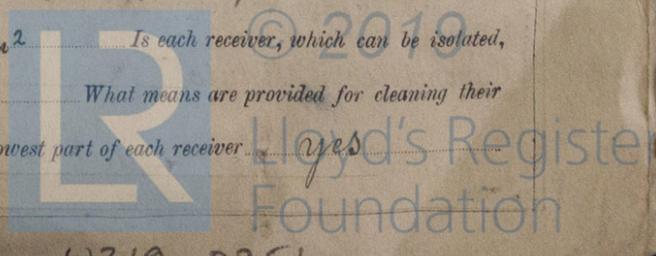
REPORT ON OIL ENGINE MACHINERY

6 MAR 1926

Date of writing Report 11 March 1926 When handed in at Local Office 10 Port of Stockholm
 No. in Survey held at Sickla, Skm Siste Date, First Survey 12 Febr Last Survey 10 March 1926
 Reg. Book. Single on the Twin } Screw vessels Tons } Gross _____ Net _____
 Triple }
 Master _____ Built at _____ By whom built _____ Yard No. _____ When built _____
 Engines made at Stockholm By whom made Aktie. Atlas-Diesel Engine No. 40508 When made 1926
 Donkey Boilers made at _____ By whom made _____ Boiler No. _____ When made _____
 Brake Horse Power 32,5 Owners Messrs. Atlas Diesel Co. Ltd. Port belonging to London
 Nom. Horse Power as per Rule 17 Is Refrigerating Machinery fitted for cargo purposes _____ Is Electric Light fitted _____

OIL ENGINES, &c.—Type of Engines Stationary Diesel Oil Engine (Type M71) 4 stroke cycle Single or double acting
 Maximum pressure in cylinders 35 kg/cm² No. of cylinders 1 No. of cranks 1 Diameter of cylinders 250 mm
 Length of stroke 370 mm Revolutions per minute 300 Means of ignition Diesel Kind of fuel used Crude Oil
 Is there a bearing between each crank? 91 Span of bearings (Page 92, Section 2, par. 7 of Rules) 310 mm
 Distance between centres of main bearings 593 mm Is a flywheel fitted yes Diameter of crank shaft journals as per Rule 139 mm
 as fitted 145 "
 Diameter of crank pins 145 mm Breadth of crank webs as per Rule 185 mm Thickness of ditto as per Rule 78 mm
 as fitted 210 " as fitted 82 "
 Diameter of flywheel shaft as per Rule _____ Diameter of tunnel shaft as per Rule _____
 as fitted _____ Diameter of thrust shaft as per Rule _____
 as fitted _____
 Diameter of screw shaft as per Rule _____ Is the screw shaft fitted with a continuous liner the whole length of the stern tube
 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 joints burned _____
 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 _____ If without liners, is the shaft arranged to run in oil _____
 Type of outer gland fitted to stern tube _____ Length of stern bush _____ Diameter of propeller _____
 Pitch of propeller _____ No. of blades _____ state whether moveable _____ Total surface _____ square feet
 Method of reversing _____ Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Thickness of cylinder liners 2.5 mm
 Are the cylinders fitted with safety valves yes Means of lubrication pumps Are the exhaust pipes and silencers water cooled or lagged with
 non-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 1 Is the sea suction provided with an efficient strainer which can be cleared
 within the vessel _____ No. of bilge pumps fitted to the main engines _____ Diameter of ditto _____ Stroke _____
 Can one be overhauled while the other is at work _____ No. of auxiliary pumps connected to the main bilge lines _____ How driven _____
 Sizes of pumps _____ No. and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps:—In engine room * _____
 and in holds, etc. _____ No. of ballast pumps _____ How driven _____ Sizes of pumps _____
 Is the ballast pump fitted with a direct suction from the engine room bilges _____ State size _____ Is a separate auxiliary pump suction fitted in
 Engine Room and size _____ 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 _____
 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 _____
 No. of main air compressors 1 No. of stages 2 Diameters 115/35 mm Stroke 115 mm Driven by engine
 No. of auxiliary air compressors _____ No. of stages _____ Diameters _____ Stroke _____ Driven by _____
 No. of small auxiliary air compressors _____ No. of stages _____ Diameters _____ Stroke _____ Driven by _____
 No. of scavenging air pumps _____ Diameter _____ Stroke _____ Driven by _____
 Diameter of auxiliary Diesel Engine crank shafts as per Rule _____ Are the air compressors and their coolers made so as to be easy of access
 as fitted _____

AIR RECEIVERS:—No. of high pressure air receivers 1 Internal diameter 240 mm Cubic capacity of each 25 litres
 material S.M. Steel Seamless, lap welded or riveted longitudinal joint lapwelded Range of tensile strength 36 kg/cm² as a min.
 thickness 15.5 mm working pressure by Rules 72 kg/cm² No. of starting air receivers 1 Internal diameter 300 mm
 Total cubic capacity 96 litres Material S.M. Steel Seamless, lap welded or riveted longitudinal joint lapwelded
 Range of tensile strength 36 kg/cm² as a min. thickness 18.5 mm Working pressure by rules 72 kg/cm² 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 yes What means are provided for cleaning their
 inner surfaces mudhole 120 mm Is there a drain arrangement fitted at the lowest part of each receiver yes



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	(The cylinder liner is more than 1/15 of the cylinder diam.)				
" " COVERS	25.2.26.	—	4 kg/cm ²	LLOYD'S TEST 4 kg. At 25.2.26 A	
" " JACKETS.....	25.2.26.	—	ditto	ditto	
" PISTON WATER PASSAGES.....	(open pistons)				
MAIN COMPRESSORS—1st STAGE.....	25.2.26.	10 kg/cm ²	20 kg/cm ²	} A	
" 2nd "	25.2.26.	70 " "	140 " "		
" 3rd "					
AIR RECEIVERS—STARTING	24.2.26.	70 kg/cm ²	140 kg/cm ²	No 5363 LLOYD'S TEST 140 kg. W.P. 70 kg. At 24.2.26 A	
" INJECTION	24.2.26.	— " "	— " "	No 5364 LLOYD'S TEST 140 kg. W.P. 70 kg. At 24.2.26 A	
AIR PIPES	25.2.26.	— " "	— " "		
FUEL PIPES	25.2.26.	— " "	— " "		
FUEL PUMPS	25.2.26.	— " "	— " "	A	
SILENCER	(none ordered)				
" WATER JACKET					
SEPARATE FUEL TANKS					

See Secretary's letter E 27.5.25.

PLANS. Are approved plans forwarded herewith for shafting
(If not, state date of approval)

Receivers E 17.7.23

Separate Tanks

SPARE GEAR as per list, approved on the 25th May 1925, will be inspected when machinery is being fitted in ship.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 12, 18, 24 & 25; 2/3 26
 { During erection on board vessel -- }
 Total No. of visits in shop 5

Dates of Examination of principal parts—Cylinders 18 & 25 26. Covers 18 & 25 26. Pistons 25 26. Rods & Connecting rods 12 & 25 26.

Crank shaft 12 & 25 26 Thrust shaft Tunnel shafts Screw shaft Propeller Stern tube Engine seatings

Engines holding down bolts Completion of pumping arrangements Engines tried under working conditions in shop 18.2.26.

Completion of fitting sea connections Stern tube Screw shaft and propeller

Material of crank shaft J.M. Stul Identification Mark on Do. LLOYD'S No 5361 At 25.2.26 A Material of thrust shaft Identification Mark on Do.

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 no If so, state name of vessel —

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

I am of opinion that this engine is of superior material and workmanship, and as it has been designed and constructed under Special Survey, I have respectfully to submit that it be approved as auxiliary to the main engine. The above engine has now been properly fitted and secured on board the M.V. Stursten; - tried under working conditions and found satisfactory. H. J. Sutherland Glasgow 4/10/26.

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 ...	£	218.40	11. March 1926.
Donkey Boiler Fee ...	£	:	When received,
Travelling Expenses (if any) ...	£	19.11	19
Total		237.51	

Committee's Minute

Assigned

See J.S.G. Rpt 45810

H. J. Sutherland
 Engineer Surveyor to Lloyd's Register of Shipping.
 Assisted by Mr. R. J. Andersson.



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