

REPORT ON OIL ENGINE MACHINERY.

No. 3274
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on the Single } Screw vessel
Twin }
Triple }
Quadruple }
Built at _____ By whom built _____ Yard No. _____ When built _____
Engines made at Stockholm By whom made Kaiser Atlas Diesel Engine No. 85146 When made 1930.
Donkey Boilers made at _____ By whom made _____ Boiler No. _____ When made _____
Brake Horse Power 200 Owners Messrs. J. Erickson & Co. Ltd. Port belonging to Chester
Nom. Horse Power as per Rule 68 Is Refrigerating Machinery fitted for cargo purposes _____ Is Electric Light fitted _____
Trade for which vessel is intended _____

OIL ENGINES, &c.—Type of Engines Polar Diesel Oil Engine Type M41 2 or 4 stroke cycle Single ~~or double~~ acting
Maximum pressure in cylinders 35 kg/cm² Diameter of cylinders 250 mm Length of stroke 490 mm No. of cylinders 4 No. of cranks 4
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 368 mm Is there a bearing between each crank yes
Revolutions per minute 300 Flywheel dia. 1150 mm Weight 2000 kg Means of ignition Diesel Kind of fuel used Grade oil
Crank Shaft, dia. of journals as per Rule 156 mm Crank pin dia. 160 mm Crank Webs Mid. length breadth 2 1/4 mm Thickness parallel to axis _____
The flywheel is fitted on after end of crank shaft Mid. length thickness 90 Thickness around eye-hole _____
Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as per Rule
Tube Shaft, diameter as fitted Screw Shaft, diameter as fitted Is the { tube } shaft fitted with a continuous liner { screw }
Bronze Liners, thickness in way of bushes as per Rule Thickness between bushes as per rule 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 _____ 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 by compressed air Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication
pumps Thickness of cylinder liners none fitted Are the cylinders fitted with safety valves yes 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 _____
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 90 mm Stroke 100 mm 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 of gear wheel type one for pumping to a daily supply tank one for delivery and one ditto worked by hand.
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 the Bilge Suctions in the Machinery Spaces
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes _____ 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 _____
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. 1 No. of stages 2 Diameters 175/20 mm Stroke 150 mm Driven by main engine
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. 2 Diameter 390 mm Stroke 120 mm Driven by main engine
Auxiliary Engines crank shafts, diameter as per Rule
as fitted

IR 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 yes What means are provided for cleaning their inner surfaces mudhole 250 mm
Is there a drain arrangement fitted at the lowest part of each receiver yes
High Pressure Air Receivers, No. none fitted solid inspection 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. 2 Total cubic capacity 800 litres Internal diameter 500 mm thickness 11.5 mm
Seamless, lap welded or riveted longitudinal joint lapwelded Material S. M. Steel Range of tensile strength 38 kg/cm² Working pressure by Rules 25.6 kg/cm²

009050-009057-0245

13/6/30



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting *E 22.4.26*
(If not, state date of approval)

Receivers *E 6.5.27* Separate Tanks

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR as per list, approved on the 8 May 1930, will be inspected when machinery is being fitted in ship.
 (See report no. 3273)

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building
 During progress of work in shops - - $\frac{20}{9} \frac{2}{12} 29. \frac{3, 6, 7 \& 28}{5} 30$
 During erection on board vessel - -
 Total No. of visits *in shop 6.*

Dates of Examination of principal parts—Cylinders $\frac{3 \& 7}{5} 30$ Covers $\frac{3 \& 7}{5} 30$ Pistons $\frac{7}{5} 30$ Rods Connecting rods $\frac{2}{12} 29; \frac{7}{5} 30$

Combined Crank shaft $\frac{20}{9} 29, \frac{7}{5} 30$ 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 *in shop 3/5 30*

Combined Crank shaft, Material *S. M. Steel* Identification Mark **LLOYD'S No 5806 A.I. 6.5.30. A** 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

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. 3273*

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 will be eligible to be classed **LMC**, as soon as it has been fitted in a classed ship 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 ...	£	309:40	10.6.19.30
Donkey Boiler Fee ...	£	:	When received,
Travelling Expenses (if any) £	28:00	:	30.6.19.30
Total fee.		337:40	

Committee's Minute

Assigned

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



Lloyd's Register
 Foundation