

Rpt. 470

REPORT ON OIL ENGINE MACHINERY.

No. 3331

10 FEB 1931

Received at London Office

27 OCT 1930

Date of writing Report 22.10.1930 When handed in at Local Office

Port of Stockholm

No. in Survey held at Sickla, Skm. Distr.
Reg. Book.

Date, First Survey 5.8.29.

Last Survey 20.10. 1930.

Number of Visits 8

Single
on the Twin
Triple
Quadruple

Screw vessel

Aquila

Tons

Gross

Net

Built at Leith

By whom built Henry Robb, Ltd.

Yard No. 181 When built

Engines made at Stockholm

By whom made A.-B. Atlas Diesel

Engine No. 85190 When made 1930

Donkey Boilers made at

By whom made

Boiler No. When made

Brake Horse Power 400

Owners Forestal Land, Timber & Railway Co. Ltd.

Port belonging to London

Nom. Horse Power as per Rule 125

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

Trade for which vessel is intended

x2 = 750 for 8 Cyl.

OIL ENGINES, &c.—Type of Engines Polar Diesel Oil Engine type M34M 2 stroke cycle Single ~~crank~~ actingMaximum pressure in cylinders 35 kg/cm² Diameter of cylinders 340 mm Length of stroke 570 mm No. of cylinders 4 No. of cranks 4

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 440 mm Is there a bearing between each crank yes

Revolutions per minute 200 Flywheel dia. 1.550 mm Weight 2.900 kg Means of ignition Diesel Kind of fuel used Crude Oil

Crank Shaft, dia. of journals as per Rule 190 mm as fitted 220 Crank pin dia. 220 mm Crank Webs Mid. length breadth 308 mm Mid. length thickness 122 mm Thickness parallel to axis shrunk Thickness around eyehole

The flywheel is fitted on the thrust shaft. Flywheel Shaft, diameter as per Rule 138 mm as fitted 220 Intermediate Shafts, diameter as fitted Thrust Shaft, diameter at collars as fitted 220

Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as fitted Is the tube screw shaft fitted with a continuous liner

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 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 compress- ed air. Is a governor fitted to prevent racing of the engine when declutched yes Means of lubrication

pumps Thickness of cylinder liners 27,5 mm 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. 1 Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Bilge Pumps worked from the Main Engines, No. 1 Diameter 190 mm Stroke 140 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

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. (for starting air) 1/2 No. of stages 2 Diameters 175/70 mm Stroke 350 mm Driven by 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. 1 Diameter 770 mm Stroke 350 mm Driven by engine

Auxiliary Engines crank shafts, diameter as per Rule as fitted

AIR 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 Manhole 400x300 mm.

Is there a drain arrangement fitted at the lowest part of each receiver yes

High Pressure Air Receivers, None fitted, solid injection 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 1.600 litres Internal diameter 650 mm thickness 14 mm

Seamless, lap welded or riveted longitudinal joint riveted Material S.M. Steel Range of tensile strength 44 kg/mm² as a min. Working pressure by Rules 25,5 kg/cm²

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting 5. 12. 28.
(If not, state date of approval)

Receivers 19/7 30

Separate Tanks

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR To be supplied and 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 - - 5/8-29, 5 & 18/2, 3/7, 29/8, 1, 13 & 20/10-30.
During erection on board vessel - - }
Total No. of visits in shop 8.

Dates of Examination of principal parts—Cylinders 1 & 13 30 Covers 1 & 13 30 Pistons 13/10-30 Rods - Connecting rods 5/8-29 29/8, 13/1 1930.
Crank shaft 18/2, 13/10-30 Thrust shaft 5/2, 13/10-30 Intermediate shafts 3/7, 13/10-30 Tube shaft

Screw shaft Propeller Stern tube Engine seatings Engines holding down bolts

Completion of fitting sea connections Completion of pumping arrangements Engines tried under working conditions in shop 1.1

Crank shaft, Material S.M. Steel Identification Mark LLOYD'S N:o 5860 13.10.30

Thrust shaft, Material Identification Mark LLOYD'S N:o 5946 13.10.30

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. 3137.

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 **PLMC**, as soon as it has been fitted in a classed ship to 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 ... £ 568.75 : : 22.10. 1930.
Donkey Boiler Fee ... £ : : When received,
Travelling Expenses (if any) £ : : 26-11 1930

Committee's Minute

Assigned

TUE. 17 FEB 1931

See Lth JE 17948

L. K. J. Andersson
Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation