

REPORT ON OIL ENGINE MACHINERY.

No. 17703.
-4 DEC 1929

Received at London Office

Date of writing Report 3rd Dec 1929 When handed in at Local Office 3rd Dec 1929 Port of Leith
 No. in Survey held at Leith Date, First Survey 1st October Last Survey 22nd Nov 1929
 Reg. Book. 41785 on the Single Screw vessel "Port Waikato" Number of Visits 19

Built at Leith By whom built H. Robb Ltd Yard No. 113 When built 1929
 Engines made at Beloit Wis By whom made Fairbanks Morse Co Engine No. 734859 When made 1929
 Donkey Boilers made at Glasgow By whom made A. & W. Dalglisk Boiler No. 867 When made 1928
 Brake Horse Power 520 Owners A. J. Watchlin Esq. Port belonging to Leith
 Nom. Horse Power as per Rule 180 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 Trade for which vessel is intended New Zealand - Australia

IL ENGINES, &c.—Type of Engines Marine Diesel 2 or 4 stroke cycle 2 Single or double acting Single
 Maximum pressure in cylinders _____ Diameter of cylinders _____ Length of stroke _____ No. of cylinders _____ No. of cranks _____
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge _____ Is there a bearing between each crank _____
 Revolutions per minute _____ Flywheel dia. _____ Weight Rpt. No 303 Means of ignition _____ Kind of fuel used _____
 Crank Shaft, dia. of journals _____ as per Rule _____ as fitted See Chicago Rpt. Crank Webs _____ Mid. length breadth _____ Thickness parallel to axis _____
 Flywheel Shaft, diameter _____ as per Rule _____ as fitted _____ Intermediate Shafts, diameter _____ as per Rule _____ as fitted Approved 7 1/2" dia. Thrust Shaft, diameter at collars _____ as per Rule _____ as fitted 9"
 Tube Shaft, diameter _____ as per Rule _____ as fitted _____ Screw Shaft, diameter _____ as per Rule _____ as fitted Approved 8 9/16" Is the tube shaft fitted with a continuous liner Yes
 Bronze Liners, thickness in way of bushes _____ as per Rule _____ as fitted 5" Thickness between bushes _____ as per rule _____ as fitted 1/2" Is the after end of the liner made watertight in the propeller boss Yes
 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 No If so, state type ✓ Length of Bearing in Stern Bush next to and supporting propeller 3'-0"
 Propeller, dia. 87" Pitch 56" No. of blades 3 Material Bronze whether Moveable No Total Developed Surface 2220 sq. ft.
 Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when decelerated Yes Means of lubrication Forced
 Thickness of cylinder liners ✓ Are the cylinders fitted with safety valves No Are the exhaust pipes and silencers water cooled & lagged with non-conducting material Yes
 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. Two Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes
 Bilge Pumps worked from the Main Engines, No. One Diameter 3 1/4" Stroke 4 1/4" Can one be overhauled while the other is at work ✓
 Pumps connected to the Main Bilge Line _____ No. and Size In addition to the Main Engine Pump, there are also the Ballast Pumps
 How driven 6" Centrifugal, 600-416 galls. per Min. & the General Service Pumps
 Ballast Pumps, No. and size 1-6" Cent. 416 galls. per Min. Duplex 3" x 4" both driven by 17 1/2 H.P. Electric Motors Lubricating Oil Pumps, including Spare Pump, No. and size 1-4" x 4 1/4" 1" Centrifugal motor driven
 Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Machinery Spaces One - 2"
 In Holds, &c. One Star 3", one Port 3"
 Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size One - 3" from Ballast Pump, one - 2" from General Service Pump
 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces Yes
 led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes
 Are all Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks Both
 Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Yes Are the Overboard Discharges above or below the deep water line Above
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Yes Are the Blow Off Cocks fitted with a spigot and brass covering plate Yes
 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 Yes
 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 Yes 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. See Chicago Rpt. Diameters _____ Stroke _____ Driven by _____
 Scavenging Air Pumps, No. _____ Diameter _____ Stroke _____ Driven by _____
 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 ✓
 Is there a drain arrangement fitted at the lowest part of each receiver Yes
 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. 1 - 20" x 5 ft. Total cubic capacity 167 cub. ft. Internal diameter 30" thickness See Don. Bert. No C. 5590.
 Seamless, lap welded or riveted longitudinal joint ✓ Material ✓ Range of tensile strength ✓ Working pressure by Rules ✓

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IS A DONKEY BOILER FITTED? *yes.* If so, is a report now forwarded? *yes*
PLANS. Are approved plans forwarded herewith for Shafting *✓* Receivers *✓* Separate Tanks *yes.*
Donkey Boilers *yes.* General Pumping Arrangements *yes.* Oil ~~Fuel~~ *Pipe* Burning Arrangements *yes.*

SPARE GEAR

The Spare Gear as detailed in the list attached to Chicago Report No 303 is on board.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops-- *1929.*
During erection on board vessel-- *Oct. 1, 10, 15, 18, 19, 23, 28, 30. Nov. 1, 2, 4, 6, 12, 14, 18, 19, 20, 21, 22.*
Total No. of visits *19.*

Dates of Examination of principal parts—Cylinders Covers Pistons Rods Connecting rods
Crank shaft Flywheel shaft Thrust shaft Intermediate shafts *15-10-29* Tube shaft
Screw shaft *1-11-29* Propeller *1-11-29* Stern tube *1-10-29* Engine seatings *1-10-29* Engines holding down bolts *6-11-29*
Completion of fitting sea connections *1-11-29* Completion of pumping arrangements *19-11-29* Engines tried under working conditions *20-11-29*
Crank shaft, Material Identification Mark Flywheel shaft, Material Identification Mark
Thrust shaft, Material Identification Mark Intermediate shafts, Material *Steel* Identification Marks
Tube shaft, Material Identification Mark Screw shaft, Material *Steel* Identification Mark

LLOYD'S
No 4916
J.D.
10-5-21

Is the flash point of the oil to be used over 150° F. *yes.*
Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with *yes.*
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *No* If so, have the requirements of the Rules been complied with *✓*
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.)

This Machinery has been efficiently fitted on board in accordance with the Rule requirements, the materials & workmanship being sound & good.

The Main Engines & Auxiliary Machinery were tried at sea under full power & working conditions, & they were found satisfactory in all respects.

In my opinion this Machinery is now eligible to be classed in the Register Book with the notation of +L.M.C. 11-29 & the record of T.S. C.L.

Leith.

The amount of Entry Fee ... £ : : When applied for, *19*
Special ... £ *9* : *12* : *0*
Donkey Boiler Fee ... £ : : When received, *19.12.29*
Travelling Expenses (if any) £ : : *19*

Committee's Minute

Assigned

John Houston
Engineer Surveyor to Lloyd's Register of Shipping.



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TUE 10 DEC 1929
+L.M.C. 11.29 Oil Engines
C.L.