

REPORT ON OIL ENGINE MACHINERY.

No. 5316^A

JAN 8 1940

Date of writing Report Dec 6 1939 When handed in at Local Office Dec 6 1939 Port of Vancouver B.C.
 No. in Survey held at Vancouver & Marpole. Date, First Survey Feb 9 1939 Last Survey Oct 9 1939
 Reg. Book. Number of Visits 24
 on the ^{Single} ~~Triple~~ ~~Quadruple~~ Screw vessel LEOLA VIRIAN
 Tons { Gross 49.49
 Net 21.57
 Built at Marpole B.C. By whom built W. Virian. Yard No. 1 When built 1939. 9.
 Engines made at Vancouver By whom made Virian Engine Works Engine No. 2013 When made 1939.
 Donkey Boilers made at none By whom made ✓ Boiler No. ✓ When made ✓
 Brake Horse Power 160 ✓ Owners W. Virian Port belonging to Vancouver B.C.
 Nom. Horse Power as per Rule 35 ✓ Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 Trade for which vessel is intended British Columbia Coastwise (Cruiser.)

IL ENGINES, &c.—Type of Engines Full Diesel. 2 or 4 stroke cycle 4 Single or double acting Single.
 Maximum pressure in cylinders 700 Diameter of cylinders 6 1/4 Length of stroke 10 No. of cylinders 8 No. of cranks 8
 Mean Indicated Pressure 100
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 7 1/2 Is there a bearing between each crank Yes
 Revolutions per minute 600 Flywheel dia. 26 1/2 Weight 390 Means of ignition Compression Kind of fuel used Diesel oil
 Crank Shaft, { Solid forged dia. of journals as per Rule 4.03 as fitted 4.375 Crank pin dia. 4.375 Crank Webs Mid. length breadth 5 3/4 Mid. length thickness 2 1/4 Thickness parallel to axis Solid. Thickness around eyehole Solid.
 Flywheel Shaft, diameter as per Rule 4.375 as fitted 4.375 Intermediate Shafts, diameter as per Rule 2.58 as fitted 3 7/16 Thrust Shaft, diameter at collars as per Rule 2.71 as fitted 2.71
 Tube Shaft, diameter as per Rule 2.6 as fitted 3 1/2 Is the { tube } shaft fitted with a continuous liner No. Bronze
 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 ✓ If so, state type ✓ Length of Bearing in Stern Bush next to and supporting propeller 14" inches
 Propeller, dia. 42" Pitch 25" No. of blades 3 Material Bronze whether Moveable No Total Developed Surface 620 sq. feet
 Method of reversing Engines Clutch Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication
 Grease Thickness of cylinder liners 1/2" Are the cylinders fitted with safety valves No Are the exhaust pipes and silencers water cooled or lagged with
 non-conducting material Water coils If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine Up stack
 Cooling Water Pumps, No. One attached Is the sea suction provided with an efficient strainer which can be cleared within the vessel No
 Bilge Pumps worked from the Main Engines, No. one Diameter 2" Stroke 1" Can one be overhauled while the other is at work ✓
 Pumps connected to the Main Bilge Line { No. and Size One Centrifugal 1 1/2" dia Suction. How driven By belt from Auxiliary engine.
 the cooling water led to the bilges No If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping
 arrangements Cooling water discharge overboard with valve on ship's side
 Ballast Pumps, No. and size Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size from Main engine. Rotary pump, 5 gal. per min.
 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 Two 1 1/2" dia. In Pump Room ✓
 Holds, &c. One forward and one aft. 1 1/2" dia. all from pipe
 Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size One 1 1/2" dia. from pipe.
 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces
 from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges No Strainers only, but accessible.
 Are all Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks Valves.
 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 ✓
 Do all pipes pass through the bunkers ✓ How are they protected ✓
 Do all 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 Yes Is it fitted with a watertight door Yes worked from after accommodation.
 On a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork Suitable Trays
 Main Air Compressors, No. One No. of stages One Diameters 4 Stroke 2 Driven by Main engine
 Auxiliary Air Compressors, No. One No. of stages One Diameters 4 Stroke 4 Driven by Aux. engine.
 All Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by
 Is provision made for first Charging the Air Receiver Auxiliary Compressor.
 Revolving Air Pumps, No. Diameter Stroke Driven by
 Auxiliary Engines crank shafts, diameter as per Rule 2" No. One Virian 5 hp Virian petrol engine.
 Position Eng Room S. Side Is a report sent herewith No.

AIR RECEIVERS:—Have they been made under survey

Is each receiver, which can be isolated, fitted with a safety valve as per Rule

Can the internal surfaces of the receivers be examined and cleaned

Injection 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.

One.

Total cubic capacity

5 cu feet

Internal diameter

12"

thickness

Seamless, lap welded or riveted longitudinal joint

Riveted

Material

ONS

Range of tensile strength

26 to 27

Working pressure by Rules

292

IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

Is the donkey boiler intended to be used for domestic purposes only

PLANS. Are approved plans forwarded herewith for Shafting

(If not, state date of approval)

Crank shaft, - Iron

Receivers

Separate Fuel Tanks

Donkey Boilers

General Pumping Arrangements

Pumping Arrangements in Machinery Space

Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied

The foregoing is a correct description,

VIVIAN ENGINE WORKS LTD.

W. Vivian

Manufacturer.

Dates of Survey while building

During progress of work in shops -
During erection on board vessel - -
Total No. of visits

July 9. 10. 11. 13. 14. 22 28 incl 1. 2

incl 1. 29 Aug 19. May 17 June 9. 29. July 13. 29. Aug 10. 18. 25. Sep 12. 18. Oct 19. 1929

23.

Dates of Examination of principal parts—Cylinders 14. 2. 39 Covers 14. 2. 39. Pistons 9. 2. 39. Rods 9. 2. 39. Connecting rods 9. 2. 39

Crank shaft 9. 2. 39 Flywheel shaft 9. 2. 39 Thrust shaft 9. 2. 39 Intermediate shafts 9. 6. 39 Tube shaft

Screw shaft 9. 6. 39 Propeller 29. 8. 39 Stern tube 12. 7. 39 Engine seatings 17. 5. 39 Engines holding down bolts 3. 8. 39.

Completion of fitting sea connections 9. 6. 39. Completion of pumping arrangements 25. 8. 39 Engines tried under working conditions 9. 10. 39.

Crank shaft, Material ONS. Identification Mark 437. 21. 12. 38RA Flywheel shaft, Material 437. ONS. Identification Mark 437. 21. 12. 38RA

Thrust shaft, Material ONS. Identification Mark 437. 21. 12. 38RA Intermediate shafts, Material ONS. Identification Marks LR. 30. 1. 2

Tube shaft, Material Identification Mark Screw shaft, Material Bronze. Identification Mark LR. 30. 1. 3

Identification Marks on Air Receiver 468. RP. 250. 28. 6. 39. R. K.

Is the flash point of the oil to be used over 150° F.

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo

If so, have the requirements of the Rules been complied with

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with

Is this machinery duplicate of a previous case

If so, state name of vessel

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

The machinery of this vessel has been built to approved plans - of good materials and workmanship and under special Survey.

The machinery was installed under Survey and has been satisfactorily tested under working conditions and manoeuvring. Pumping arrangements tested

It is recommended that the machinery be classed + LMC 10. 39. CL

The amount of Entry Fee

\$ 10. 00

When applied for,

Special

\$ 125. 00

Dec 6 19 39

Donkey Boiler Fee

£

When received,

Travelling Expenses (if any)

\$ 10. 00

7-3-19 40

Committee's Minute

Assigned

+ Lmb. 10. 39

oil Ly.

(Bronze)

Ascor

R. K. Knows

Engineer Surveyor to Lloyd's Register of Shipping.



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Certificate (if required) to be sent to

(The Surveyors are requested not to write on or below the space for Committee's Minute.)

(2)