

REPORT ON OIL ENGINE MACHINERY.

No. 7418

FEB -9 1938

Date of writing Report 4 Jan 1938 When handed in at Local Office 6 Jan 1937 Port of Philadelphia
No. in Survey held at Chesler, Pa Date, First Survey 6 April Last Survey 28 Dec 1937
Reg. Book.

Single M on the Twin Screw vessel RHODE ISLAND Tons { Gross 8562
Triple N Net 5070
Quadruple
Built at Chesler, Pa By whom built Sum FR & DD Co Yard No. 165 When built 1937
Engines made at " By whom made " Engine No. " When made "
Donkey Boilers made at Danville NY By whom made Foster Wheeler Corporation Boiler No. 5612 When made "
Brake Horse Power 4800 Owners The Texas Co. Port belonging to Wilmington Del
Nom. Horse Power as per Rule 1197 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes
Trade for which vessel is intended Carrying Petroleum in bulk.

OIL ENGINES, &c. Type of Engines Sum Doxford Opposed piston 2 or 4 stroke cycle 2 Single or double acting Single
Maximum pressure in cylinders 600 lbs Diameter of cylinders 31" Length of stroke 50" + 36" No. of cylinders 4 No. of cranks 13
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 9' 0 1/2" Is there a bearing between each crank yes
Revolutions per minute 90 Elongated dia. Detuned 5.7" Weight 9500 lb. Means of ignition " Kind of fuel used "
Crank Shaft, dia. of journals 22" as per Rule 22" Crank pin dia. 24" Crank Webs 16" Mid. length breadth 3' - 8 3/4" Thickness parallel to axis 7' - 3 3/4"
Flywheel Shaft, diameter 24" as per Rule 24" as fitted 24" Intermediate Shafts, diameter 16" as per Rule 16" as fitted 23" Thrust Shaft, diameter at collars 16.8" as per Rule 16.8" as fitted 23"
Tube Shaft, diameter 17 9/16" as per Rule 17 9/16" as fitted 18 1/2" Is the tube shaft fitted with a continuous liner yes
Bronze Liners, thickness in way of bushes 1 5/16" as per Rule 1 5/16" as fitted 1 5/16" Thickness between bushes 1 5/16" as per rule 1 5/16" as fitted 1 5/16" 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 yes
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 yes
If two liners are fitted, is the shaft lapped or protected between the liners yes Is an approved Oil Gland or other appliance fitted at the after end of the tube yes

Propeller, dia. 18' Pitch 16' - 14" at No. of blades 4 Material Mang. Bronze whether Moveable No Total Developed Surface 109.7' sq. feet
Method of reversing Engines Can shaft Is a governor or other arrangement fitted to prevent racing of the engine when decelerated yes Means of lubrication Up stick
Thickness of cylinder liners 1 1/8" Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or 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 yes
Cooling Water Pumps, No. 2 SW Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes

What special arrangements are made for dealing with cooling water if discharged into bilges yes
Bilge Pumps worked from the Main Engines, No. None Diameter " Stroke " Can one be overhauled while the other is at work yes
Pumps connected to the Main Bilge Line 1 - Bilge pump Washington VD 14" x 10" x 12" Steam
Ballast Pumps, No. and size 1 - Ballast " 10" x 9" x 12" "
Are two independent means arranged for circulating water through the Oil Cooler yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge yes
Pumps, No. and size:—In Machinery Spaces 1 - 4" Eng room after 1 - 2 1/2" Inny bilge Cofferdam 2 - 2" Steam by pump
In Holds, &c. 2 - 3" Dry cargo hold, 1 - 3" Bom Store room, 1 - 3" chain locker, 1 - 3" Forepeak, 1 - 3" Cofferdam
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 - 10" - 2 - 5"

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 yes
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 Cofferdam suction How are they protected Tunnel
What pipes pass through the deep tanks yes Have they been tested as per Rule yes

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 yes
If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork yes

Main Air Compressors, No. 2 Washington No. of stages 3 Diameters 10 1/2" 6 3/4" 6" 7.5" Stroke 6" 7.5" Driven by Steam 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 on main engine Diameter 8 3/2" Stroke 39" Driven by Crankshaft

Auxiliary Engines crank shafts, diameter " as per Rule " as fitted " Position "
AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule yes Is a drain fitted at the lowest part of each receiver yes

Can the internal surfaces of the receivers be examined and cleaned yes Is a drain fitted at the lowest part of each receiver yes
High Pressure Air Receivers, No. 3 Cubic capacity of each 450' Internal diameter 42" thickness 1 3/16"
Seamless, lap welded or riveted longitudinal joint yes Material Steel Range of tensile strength 5176500 lb Working pressure 600 lb

Starting Air Receivers, No. 3 Total cubic capacity 450' Internal diameter 42" thickness 1 3/16"
Seamless, lap welded or riveted longitudinal joint yes Material Steel Range of tensile strength 5176500 lb Working pressure 600 lb

Made in England

IS A DONKEY BOILER FITTED?

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)

Donkey Boilers

General Pumping Arrangements

If so, is a report now forwarded?

Receivers

Separate Tanks

Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied

2 transverse bolts & nuts, 1 upper & lower piston rod complete, 1 piston complete, 1 crank shaft spool piece, 3 spindles for fuel oil distribution block & filters, 2 fuel oil filters, 1 non return starting valve complete, 1 relief valve complete, 4 valves for scavenging pump, 1 scavenging pump crosshead, shoe & connecting rod bearing, 2 bolts & nuts for scavenging pump connecting rod, 2 sprockets & chain for lubricator drive, 1 cylinder liner complete, 1 tail shaft.

The foregoing is a correct description,
SUN SHIPBUILDING & DRY DOCK CO.

Manufacturer.

Dates of Survey while building
During progress of work in shops -- Dec 2-6-7-8-15.
During erection on board vessel -- April 6-28, May 7-20-25, June 11-23, July 1-9-15-17-19-22-26, Aug 4-6-10-19-20, Sept 8-13-24-28, Oct 11-13-14, Nov 16-23, 1937-33.
Total No. of visits 45.

Dates of Examination of principal parts—Cylinders 7 Dec, Covers 7 Dec, Pistons 23 Nov, Rods 6 Dec, Connecting rods 2 Dec, Crank shaft 16 Nov, Flywheel shaft, Thrust shaft 15 Nov, Intermediate shafts 13 Oct, Tube shaft, Screw shaft 13 Oct, Propeller 13 Oct, Stern tube 26 July, Engine seatings 18 Oct, Engines holding down bolts 1 Dec, Completion of fitting sea connections 18 Oct, Completion of pumping arrangements 21 Oct, Engines tried under working conditions 21 Oct, Crank shaft, Material Steel, Identification Mark see forging report, Flywheel shaft, Material, Identification Mark, Thrust shaft, Material Steel, Identification Mark 3344 MAR, Intermediate shafts, Material Steel, Identification Marks 3458 MAR, Tube shaft, Material, Identification Mark, Screw shaft, Material Steel, Identification Mark Reg 3459 MAR, 3460 MAR.

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, &c.)

Special Survey & in accordance with the approved plans, the workmanship & materials are good, the machinery has been satisfactorily installed on the vessel, tried out under working conditions & found satisfactory. In my opinion this installation is eligible to receive the record of +LMC 12.37. Please see attached sheets for forging reports.

The bedplate & entablatures of the main engines are fusion welded & in accordance with the approved plans. All welded parts entering into the construction of this engine, have been stress relieved, electrode used "Murex". After the trial trip bedplate & entablatures were thoroughly cleaned, and all welded parts carefully examined. No sign of defect or weakness was discovered.

The amount of Entry Fee \$ 30.00
Special \$ 120.00
Installation \$ 130.00
Donkey Boiler Fee \$ 67.50
Entablatures \$ 12.50
Travelling Expenses (any) \$ 50.00
Committee's Minute \$ 50.00

When applied for, 7 Jan. 1938
When received, 14 4 19 38
NEW YORK JAN 25 1938

W.D. Rumbach
Engineer Surveyor to Lloyd's Register of Shipping.

Assigned +LMC 12.37 Oil Engine



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