

REPORT ON OIL ENGINE MACHINERY.

No. 7418
FEB -9 1938

Date of writing Report 14 Jan 1938 When handed in at Local Office 6 Jan 1937 Port of Philadelphia
Date, First Survey 6 April Last Survey 28 Dec 1937

No. in Survey held at 1 Reg. Book. 1 Number of Visits 1

on the Single M RHODE ISLAND Tons Gross 8562
Twin Screw vessel Net 5070
Triple
Quadruple

Built at Chester, Pa By whom built Sum FRB & D D 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 Ford Wheel Corporation Boiler No. 5612 When made "
Catawack NJ Owners The Texas Co. Port belonging to Wilmington Del

Brake Horse Power 4800 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Nom. Horse Power as per Rule 1197 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" + 3/16" 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 as per Rule 22 Crank pin dia. 24" Crank Webs Mid. length breadth 3' - 8 3/4" Thickness parallel to axis 7' - 3 3/4"
as fitted 24" Mid. length thickness 12 3/4" Thickness around eyehole 10 3/16"

Flywheel Shaft, diameter as per Rule 16" Intermediate Shafts, diameter as fitted 23" Thrust Shaft, diameter at collars as per Rule 16.8"
as fitted 16" as fitted 23" as fitted 23"

Tube Shaft, diameter as per Rule 17 9/16" Is the tube shaft fitted with a continuous liner Yes
as fitted 18 1/2" as fitted 15 3/4" as fitted 15 3/4"

Bronze Liners, thickness in way of bushes as per Rule 15 3/4" Thickness between bushes as per rule 15 3/4" Is the after end of the liner made watertight in the propeller boss Yes
as fitted 15 3/4" as fitted 15 3/4" as fitted 15 3/4"

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 6' - 2" Rax No. of blades 4 Material Mang Bronze whether Moveable No Total Developed Surface 109.7' sq. feet
6' - 2" Rax Can shaft Is a governor or other arrangement fitted to prevent racing of the engine when decelerated Yes Means of lubrication Up stack

Method of reversing Engines Forward 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
Forward 1 1/8" Yes Yes

Cooling Water Pumps, No. 2 SW Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes
2 SW Yes

What special arrangements are made for dealing with cooling water if discharged into bilges None
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 V D 14" x 10" x 12" Steam
1 - Bilge pump " " 10" x 9" x 12" "

Ballast Pumps, No. and size 1 - Ballast " " 10" x 9" x 12" " including Spare Pump, No. and size 2 - Washington V D 7 1/2" x 9" x 10"
1 - Ballast " " 10" x 9" x 12" " 2 - Washington V D 7 1/2" x 9" x 10"

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 1 - 2 1/2" Inny bilge Cofferdam 2 - 2" Steam by pump
1 - 2 1/2" Inny bilge Cofferdam 2 - 2" Steam by pump 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
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"
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 led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes
Yes Yes

Are all Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks Yes
Yes 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
Yes 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
Yes Yes

What pipes pass through the bunkers Cofferdam suction How are they protected Tunnel
Cofferdam suction Tunnel

What pipes pass through the deep tanks " Have they been tested as per Rule Yes
" Yes

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes
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 Yes 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
Yes

Main Air Compressors, No. 2 - Washington No. of stages 3 Diameters 10 1/2" 4 3/4" 6 3/4" Stroke 6" 9 1/2" Driven by Steam engine
2 - Washington 3 10 1/2" 4 3/4" 6 3/4" 6" 9 1/2" 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
1 on main engine 8 3/2" 39" Crankshaft

Auxiliary Engines crank shafts, diameter as per Rule Position as fitted
as per Rule as fitted

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes
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
Yes Yes

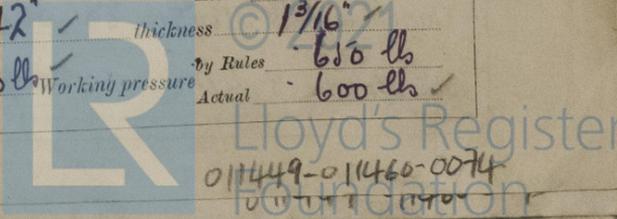
High Pressure Air Receivers, No. " Cubic capacity of each " Internal diameter " thickness "
" " " "

Seamless, lap welded or riveted longitudinal joint " Material " Range of tensile strength " Working pressure "
" " " "

Starting Air Receivers, No. 3 Total cubic capacity 450' Internal diameter 42" thickness 1 3/16"
3 450' 42" 1 3/16"

Seamless, lap welded or riveted longitudinal joint fusion welded Material Steel Range of tensile strength 5166500 lb Working pressure 600 lb
 fusion welded Steel 5166500 lb 600 lb

Handwritten note: 11-2-38



IS A DONKEY BOILER FITTED?

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

Yes / If so, is a report now forwarded? Yes
 Receivers Yes / Separate Tanks Yes
 Oil Fuel Burning Arrangements Yes

PLANS. Are approved plans forwarded herewith for Shafting

Donkey Boilers / General Pumping Arrangements / 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 SHIP BUILDING & DRY DOCK CO

Robert-Harris

Manufacturer.

Dates of Survey while building: During progress of work in shops - Dec 2-6-7-8-15, 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, 1937-38
 During erection on board vessel - July 12, Aug 2-16, Sept 16-20, Oct 18, Nov 22, Dec 1-9-16-21-28 - 1937
 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, Reg 3459 MAR, Spk 3460 MAR
 Tube shaft, Material, Identification Mark, Screw shaft, Material Steel, Identification Mark

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 Yes, 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 Yes, If so, state name of vessel LOUISIANA. Phila report 7314

General Remarks (State quality of workmanship, opinions as to class, &c.) The above machinery has been constructed and 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 \$ 800.00
 Installation \$ 130.00
 Donkey Boiler Fee \$ 67.50
 Travelling Expenses (any) \$ 12.50
 Exk. Phila \$ 50.00
 Committee's Minute

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

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

Assigned + LMC 12-37 Oil Engine

