

REPORT ON OIL ENGINE MACHINERY.

No. 8037

Date of writing Report 30 April 1941 When handed in at Local Office 1 May 1941 Port of Philadelphia
No. in Survey held at Reg. Book. 41 Date, First Survey Nov 15 1940 Last Survey 19 March 1941
Number of Visits 22

on the Atlantic Sun vessel Lehigh Pa. Atlantic Sun Tons Gross 11355 Net 6891

Built at Lehigh Pa. By whom built Sum 813 7 D D 60 Yard No. 212 When built 1941

Engines made at " By whom made " Engine No. " When made "

Donkey Boilers made at Barnett N.J. By whom made Foster Wheeler Corporation Boiler No. " When made "

Brake Horse Power 7500 Owners Sum Gil Co Port belonging to Philadelphia

Nom. Horse Power as per Rule 1590 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended Carrying Petroleum in bulk.

IL ENGINES, &c. Type of Engines Sum - Bedford - Opposed piston 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 600 lbs Diameter of cylinders 32" Length of stroke 15 1/4" No. of cylinders 5 No. of cranks 6

Mean Indicated Pressure 96.5 lb Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 47" Is there a bearing between each crank Yes

Revolutions per minute 94 Flywheel dia. None Weight " Means of ignition Compression Kind of fuel used Bunker "C"

Crank Shaft, Solid forged dia. of journals as per Rule 24" as fitted 24" Crank pin dia. 24 1/2" Crank Webs Mid. length breadth 148" Mid. length thickness 13 1/2" Thickness parallel to axis 10 17/16" Thickness around eye hole 10 15/16"

Flywheel Shaft, diameter as per Rule " as fitted " Intermediate Shafts, diameter as per Rule 19.008" as fitted 23" Thrust Shaft, diameter at collars as per Rule 20" as fitted 23"

Tube Shaft, diameter as per Rule " as fitted " Screw Shaft, diameter as per Rule 20.708" as fitted 21 5/8" Is the Hub shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule 738" as fitted 1 1/16" Thickness between bushes as per Rule " as fitted " 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. 21'-8" Pitch 17' 0" No. of blades 4 Material Man bronze Length of Bearing in Stern Bush next to and supporting propeller 9'-6 1/2"

Method of reversing Engines Reversing cam shaft Is a governor or other arrangement fitted to prevent racing of the engine when disconnected Means of lubrication Yes

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

insulating 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 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. " Diameter " Stroke " Can one be overhauled while the other is at work Yes

Pumps connected to the Main Bilge Line No. and Size 1-12" X 8 1/2" X 12" for duplex How driven Steam 1 centrifugal 200 gals per min motor

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 Yes

Ballast Pumps, No. and size 1-12" X 8 1/2" X 12" for duplex 1-10" X 7" X 10" Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2-7 1/2" 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

pumps, No. and size:—In Machinery Spaces 8-3 1/2" 1-2" Lub oil pump cofferdam 6-3" in ER as per plan In Pump Room 1-4"

Holds, &c. 4-2 1/2" 2-2" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-14"

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 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 below

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 at ship side

What pipes pass through the bunkers 1-14" bilge suction from cofferdam How are they protected By pipe tunnel

What pipes pass through the deep tanks Forward bilge & ballast suction 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

apartment to another Yes Is the Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Yes

On 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. 3 No. of stages 3 Diameters 5 1/2" X 3" Stroke 5 1/2" X 5" Driven by motor

Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 5" X 2" Stroke 5" Driven by motor

Small Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 5" X 3" Stroke 3 1/2" Driven by motor

What provision is made for first Charging the Air Receiver By starting emergency compressor & then aux air compressor

Revolving Air Pumps, No. 1 Diameter 8 1/4" Stroke 58" Driven by Main crank shaft

Auxiliary Engines crank shafts, diameter as per Rule Steam turbine as fitted Yes Is a report sent herewith Yes

Have the Auxiliary Engines been constructed under special survey Yes

AIR RECEIVERS:—Have they been made under survey

State No. of Report or Certificate

4256 WHR

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

Is a drain fitted at the lowest part of each receiver

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

Actual

Starting Air Receivers, No.

3

Total cubic capacity

486 Cu ft

Internal diameter

42"

thickness

1 3/16"

Seamless, lap welded or riveted longitudinal joint

Union Welded

Material

Steel

Range of tensile strength

156,600

Working pressure

by Rules

Actual

650 lb

600 lb

IS A DONKEY BOILER FITTED?

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

No

If so, is a report now forwarded?

PLANS: Are approved plans forwarded herewith for Shafting

(If not, state date of approval)

April 18 1940

Receivers Nov 3 1939

Oct 25 1939

Separate Fuel Tanks

Donkey Boilers

12 March 1940

General Pumping Arrangements

Oct 15 1940

Pumping Arrangements in Machinery Space

Jan 5 1940

Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied

1 Upper & lower piston rods, 1 main piston, 2 piston skirts, 1 engine brake valve complete, 5 hoses for piston water service, 1 complete feed lubricator, 1 fuel oil pump rams & guides, 1 bundle of tubes for lubricating oil cooler.

The foregoing is a correct description

Sun Shipbuilding Corp. Dock Co
Chief Eng.

Manufacturer.

Dates of Survey while building
During progress of work in shops--
During erection on board vessel--
Total No. of visits

Dates of Examination of principal parts—Cylinders 5 Feb Covers 5 Feb Pistons 12 Feb Rods 12 Feb Connecting rods 13 Feb
Crank shaft 18 Jan Flywheel shaft Thrust shaft 14 Jan Intermediate shafts 18 Jan Tube shaft
Screw shaft 18 Jan Propeller 18 Jan Stern tube 7 Jan Engine seatings 23 Jan Engines holding down bolts 25 Feb
Completion of fitting sea connections 7 Jan Completion of pumping arrangements 19 March Engines tried under working conditions 19 March
Crank shaft, Material O.H. Steel Identification Mark 9077 JCM Flywheel shaft, Material Identification Mark
Thrust shaft, Material Identification Mark 9077 JCM Intermediate shafts, Material O.H. Steel Identification Marks 6824 HBC
Tube shaft, Material Identification Mark Screw shaft, Material O.H. Steel Identification Mark 7021 JCM
Identification Marks on Air Receivers 4256 WHR.

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 AMERICA SUN

General Remarks (State quality of workmanship, opinions as to class, &c.) This installation has been constructed under Special Survey, and in accordance with the approved plans, the workmanship & materials are good, the installation has been tried out under full power & found satisfactory. In my opinion this installation is eligible to receive the record of + LMC 3, 41.

After the trial trip the welded bedplate & entablatures were carefully examined & no signs of fractures or weakness were discovered.

The amount of Entry Fee \$30.00
Special \$699.00
Donkey Boiler Fee \$20.00
Travelling Expenses (if any) \$
When applied for 15 May 1941
When received, 19
NEW YORK MAY 28 1941
Assigned + LMC-3, 41. Oil Eng.

Engineer Surveyor to Lloyd's Register of Shipping.

Lloyd's Register Foundation