

REPORT ON OIL ENGINE MACHINERY.

No. 20189

Received at London Office

29 JUL 1936

Date of writing Report 20.4.36 When handed in at Local Office 14th July 1936 Port of Greenock
 No. in Survey held at Greenock Date, First Survey 1st October 1935 Last Survey 14th July 1936
 Reg. Book. 115 "Arietta"
 on the Single Screw vessel
 Built at Glasgow By whom built Lithgow & Co Yard No. 860 When built 1936
 Engines made at Greenock By whom made John & Nicaud & Co Engine No. 1192 When made 1936
 Donkey Boilers made at ditto By whom made ditto Boiler No. 1192 When made 1936
 Brake Horse Power 2800 Owners Anglo-Saxon Petroleum Co Ltd Port belonging to London
 Nom. Horse Power as per Rule 503 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 Trade for which vessel is intended Forage 25 7/16 55 1/8

OIL ENGINES, &c.—Type of Engines Diesel Solid Injection under Piston Supercharge 2 or 4 stroke cycle 4 Single or double acting Single
 Maximum pressure in cylinders 600 Diameter of cylinders 650 mm Length of stroke 1400 mm No. of cylinders 8 No. of cranks 8
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 844 mm Is there a bearing between each crank Yes
 Revolutions per minute 112 Flywheel dia. 2218 mm Weight 2.19 tons Means of ignition Compression Kind of fuel used Diesel
 Crank Shaft, dia. of journals as per Rule 436 mm as fitted 460 mm Crank pin dia. 460 mm Crank Webs Mid. length breadth 267 mm Thickness parallel to axis 205 mm
 Flywheel Shaft, diameter as per Rule 436 mm as fitted 18 1/4 Intermediate Shafts, diameter as per Rule 12.18 as fitted 24 Thrust Shaft, diameter at collars as per Rule 12.5 as fitted 18 1/4
 Tube Shaft, diameter as per Rule 13.5 as fitted 18 Is the tube shaft fitted with a continuous liner Yes
 Bronze Liners, thickness in way of bushes as per Rule 7/8 as fitted 1 1/16 Is the after end of the liner made watertight in the propeller boss 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. 15.9 Pitch 11.3 No. of blades 4 Material Stainless whether Moveable No Total Developed Surface 80 sq. feet
 Method of reversing Engines Air Is a governor or other arrangement fitted to prevent racing of the engine when detached Yes Means of lubrication Forced
 Thickness of cylinder liners 40 to 48 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water-cooled or lagged with non-conducting material lagged
 Cooling Water Pumps, No. 2 (1-2000) (1-2500) 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. 2 Diameter 35 mm Stroke Rotary Can one be overhauled while the other is at work Yes
 Pumps connected to the Main Bilge Line { No. and Size } 2-35 mm { How driven } Main Engine Steam
 Ballast Pumps, No. and size None Lubricating Oil Pumps, including Spare Pump, No. and size 2 (one 40 mm) one 8" x 8" 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 3 at 3 1/2"
 In Holds, &c. 2. 2" Tanks (Wing) 2. 6" Centre 1. 8" Deep Tanks 2. 4"
 Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size Yes 2-6"
 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
 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 None How are they protected Yes
 What pipes pass through the deep tanks None 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 None 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 Yes
 Main Air Compressors, No. None No. of stages — Diameters — Stroke — Driven by —
 Auxiliary Air Compressors, No. Two No. of stages 2 Diameters 4 1/8, 8 7/8 Stroke 6 Driven by Diesel
 Small Auxiliary Air Compressors, No. — No. of stages — Diameters — Stroke — Driven by —
 scavenging Air Pumps, No. — Diameter — Stroke — Driven by —
 Auxiliary Engines crank shafts, diameter as per Rule — as fitted —

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

Are the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces Manhole
 Is there a drain arrangement fitted at the lowest part of each receiver Yes

High Pressure Air Receivers, No. one Cubic capacity of each 45 litres Internal diameter 250 mm thickness 7 mm
 Seamless, lap welded or riveted longitudinal joint Seamless Material S Range of tensile strength 50 to 68 kg/mm² Working pressure by Rules 37.5

Working Air Receivers, No. 2 Total cubic capacity 800 Cub. ft. Internal diameter 5-10 1/4 thickness 15/16
 Seamless, lap welded or riveted longitudinal joint Riveted Material S Range of tensile strength 29-23 Working pressure by Rules 25.7

IS A DONKEY BOILER FITTED?

PLANS. Are approved plans forwarded herewith for Shafting
(If not, state date of approval)

Donkey Boilers

General Pumping Arrangements

Receivers

Oil Fuel Burning Arrangements

Separate Tanks

SPARE GEAR

Propeller shaft complete (Stamped L.R. 5888 W.G.M. 7.4.36)

The foregoing is a correct description,
For JOHN G. KINCAID & CO. LIMITED.

Director

Manufacturer

Dates of Survey while building
During progress of work in shops - (1935) Oct. 16, 22, 25, 29, 30. Nov. 6, 13, 14, 18, 19, 20. Dec. 2, 9, 16, 23, 25, 26, 29, 30. (1936) Jan. 8, 10, 14, 19, 20, 21, 23, 24, 29, 31. Feb. 3, 6, 10, 11, 12, 13. MAR. 3, 4, 6, 9, 10, 13, 14, 19, 20, 23, 24, 25, 26, 30, 31. APRIL 3, 4, 10, 13, 14, 15, 19, 20, 22. MAY 1, 12, 13, 19, 22, 25, 28. JUNE 1, 2, 3, 5, 8, 11, 19, 22, 25, 30.
During erection on board vessel - 3. 11. 12. 13. 14.
Total No. of visits 90

Dates of Examination of principal parts - Cylinders 7. 2. 36 Covers 7. 2. 36 Pistons 6. 7. 36 Rods 20. 3. 36 Connecting rods 20. 3. 36

Crank shaft 17. 3. 36 Flywheel shaft 17. 3. 36 Thrust shaft 9. 4. 36 Intermediate shafts 9. 4. 36 Tube shaft 17. 3. 36

Screw shaft 23. 3. 36 Propeller 23. 3. 36 Stern tube 20. 3. 36 Engine seatings 23. 3. 36 Engines holding down bolts 14. 6. 36

Completion of fitting sea connections 25. 3. 36 Completion of pumping arrangements 8. 4. 36 Engines tried under working conditions 8. 4. 36

Crank shaft, Material S Identification Mark L.R. 192 W.G.M. Flywheel shaft, Material S Identification Mark L.R. 192 W.G.M.

Thrust shaft, Material S Identification Mark L.R. 5888 W.G.M. Intermediate shafts, Material S Identification Marks L.R. 5888 W.G.M.

Tube shaft, Material - Identification Mark - Screw shaft, Material S Identification Mark L.R. 5888 W.G.M.

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 Yes

Is this machinery duplicate of a previous case Yes If so, state name of vessel M/s "Amantia" (entry 11-11-1920)

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

These Engines-Boiler have been built under Special Survey in accordance with the approved plans. The workmanship & material are of good quality. They have been securely fitted on board. Tried under working conditions and found satisfactory.

The Machinery is eligible in my opinion for the record of L.M.E.

4-36 (Notation of Donkey Boiler WP 180lb)

Damage stated to have been caused by the breaking of No. 15 Main Engine Piston July 9th 1936 on completion of official trials

Found No. 15 Piston broken. Piston Rod & Connecting Rods bent

Found No. 15 Crank Pin & Web Bolt plate in way of same. Glue down cover. Quin all examined

Piston (Pulley Iron) Connecting Piston Rods Top & Bottom End Bolts all bolts renewed

No. 1, 2, 3, 4 & 6 Pistons renewed. Examined & tested & found satisfactory. These Pistons have been

replaced by ones of Pulley Iron. All completion Machinery taken under power & found satisfactory

The amount of Entry Fee ... £ 6 : When applied for,

Special ... £ 100 . 3 : 11th July 1936

Donkey Boiler Fee ... £ 16 . 12 : 18th July 1936

Traveling Expenses (if any) £ 8 . 8 : 15th July 1936

Committee's Certificate 1 - 1 4. 8. 36 5888

Assigned + L.M.E. 7.36 GLASGOW 28 JUL 1936

Assigned + L.M.E. 7.36 DB-180lb.

