

# REPORT ON OIL ENGINE MACHINERY.

Received at London Office

10 JUN 1927  
NEWCASTLE-ON-TYNE.

Date of writing Report 19. When handed in at Local Office 31-5 1927 Port of Wallsend-on-Tyne Date, First Survey 18 Nov. 1925 Last Survey 26 May 1927 Number of Visits 129.

No. in Survey held at Reg. Book. Single on the Triple Screw vessels Pecten Tons: Gross Net

Built at Jarrow By whom built Palmers S. B. Coy Yard No. 955 When built 1924

Engines made at Wallsend By whom made North Eastern Mar. & Eng. Co. Engine No. 2615 When made 1924

Donkey Boilers made at Wallsend. By whom made North Eastern Mar. & Eng. Co. Boiler No. 2615 When made 1924

Brake Horse Power 3500. Owners Anglo-Saxon Petroleum Oil Co. Ltd Port belonging to London

Tom. Horse Power as per Rule 1020 1204 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

**MAIN ENGINES, &c.** Type of Engines North Eastern Works poor Diesel 2 or 4 stroke cycle 4 Single or double acting D.A.

Maximum pressure in cylinders 500 No. of cylinders 6 Diameter of cylinders 820 mm No. of cranks 6 Length of stroke 1500 mm

Position of bearings, adjacent to the Crank, measured from inner edge to inner edge 1110 mm Is there a bearing between each crank Yes

Revolutions per minute 85 Flywheel dia. 3000 mm Weight 9 tons Means of ignition Compression Kind of fuel used Fuel oil F.P. above 150 F

Crank Shaft, dia. of journals as per Rule 504 mm as fitted 540 mm Crank pin dia. 540 mm Crank Webs Mid. length breadth 1040 mm Mid. length thickness 340 mm Thickness parallel to axis 340 mm Thickness around eye hole 250 mm

Flywheel Shafts, diameter as per Rule 504 mm as fitted 540 mm Intermediate Shafts, diameter as per Rule 15.8" as fitted 22.04" Thrust Shaft, diameter at collars as per Rule 16.632" as fitted 22.04"

Propeller Shafts, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 14.3" as fitted 18.3" Is the shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule .83" as fitted .88" Thickness between bushes as per Rule .62" as fitted .79" 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

When 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

When two liners are fitted, is the shaft lapped or protected between the liners Yes (Aluminum oxide bearing in bush & continuous liner on shaft) Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft Yes Length of Bearing in Stern Bush next to and supporting propeller 6'-2 1/2"

Propeller, dia. 14'-6" Pitch 16'-3" No. of blades 4 Material Bronze whether Moveable No Total Developed Surface 95 sq. feet

Method of reversing Engines Compressed air Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication Oil

Exhaust, Thickness of cylinder liners 15 to 16 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with 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

Boiling Water Pumps, No. 3. 2 on W. Eng. 1 separate hot water Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Large Pumps fitted to the Main Engines, No. Two Diameter 140 mm Stroke 300 mm Can one be overhauled while the other is at work Yes

Pumps connected to the Main Bilge Line No. and Size 2 as above 1 Duplex donkey 6" x 4" x 10" 1 Duplex Ballast Tank 8" x 10" x 10" Driven by Steam driven

Fast Pumps, No. and size 1 @ 8" x 10" x 10" Lubricating Oil Pumps, including Spare Pump, No. and size 2 on W. Eng. 2.10 cyl x 300 stroke 1 motor driven rotary 6" suction

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 Engine and Bilge Room 6 @ 3 1/2"

Holdings, &c. Carrying petroleum in bulk. And hold 3 @ 2 1/2", 3-4" in Pump room, 1 @ 3" in fwd pump room

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 4 1/2" + 1 @ 4" dia + 1 @ 4" cofferdams.

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-bones Yes Are the Bilge Suctions in the Machinery Space 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 both

Are they fixed sufficiently high on the ship's side to be seen without lifting the plating 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

Do any pipes pass through the bunkers none How are they protected Yes

Do any 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 none, mech. aff. Is it fitted with a watertight door Yes worked from Yes

When 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. Two No. of stages Three Diameters 16 5/8" 6 5/8" Stroke 550 mm Driven by Main Engines

Auxiliary Air Compressors, No. Two No. of stages Three Diameters 5 10/16" Stroke 550 mm Driven by Steam off

Small Auxiliary Air Compressors, No. None No. of stages None Diameters None Stroke None Driven by None

Refrigerating Air Pumps, No. None Diameter None Stroke None Driven by None

Auxiliary Engines crank shafts, diameter as per Rule as fitted See separate reports

**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 manholes in ends

Is there a drain arrangement fitted at the lowest part of each receiver Yes

High Pressure Air Receivers, No. Three Cubic capacity of each 20 ft Internal diameter 440 mm thickness 22.5 mm Working pressure by Rules 2630 lbs

Low Pressure Air Receivers, No. Four Total cubic capacity 1820 ft Internal diameter 1545.6 mm thickness 27.48 mm Working pressure by Rules 450 lbs

Are all receivers, lap welded or riveted longitudinal joint Seamless Material Steel Range of tensile strength 32 to 38 tons

Are all receivers, lap welded or riveted longitudinal joint Riveted Material Steel Range of tensile strength 28 to 32 tons

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

HYDRAULIC TESTS:-

Table with columns: DESCRIPTION, DATE OF TEST, WORKING PRESSURE, TEST PRESSURE, STAMPED, REMARKS. Rows include Engine Cylinders, Covers, Jackets, Piston Water Passages, Main Compressors (1st, 2nd, 3rd Stage), Air Receivers (Starting, Injection), Air Pipes, Fuel Pipes, Fuel Pumps, Silencer, Water Jacket, and Separate Fuel Tanks.

PLANS. Are approved plans forwarded herewith for Shafting 11-11-27 Receivers sent with the 1st entry report of work Donkey Boilers see Marpassa General Pumping Arrangements see Marpassa Oil Fuel Burning Arrangements ✓

SPARE GEAR In accordance with and much in excess of the Rules. List of same is hereunder enclosed. (blue print).

THE NORTH EASTERN MARINE ENGINEERING CO., LTD. The foregoing is a correct description.

W. Campbell Secretary Manufacturer.

Dates of Survey while building: During progress of work in shops... During erection on board vessel... Total No. of visits 129

Dates of Examination of principal parts: Cylinders 29-11-26, Covers 4-1-27, Pistons 14-1-27, Rods 14-1-27, Connecting rods 20-1-27, Crank shaft 2-4-26, Flywheel shaft 5-11-26, Thrust shaft 20-1-26, Intermediate shafts 11-2-26, Tube shaft ✓, Screw shaft 26-1-26, 3-2-26, Propeller 4-2-27, Stern tube 24-5-26, Engine seatings 18-2-27, Engines holding down bolts 20-1-27, Completion of fitting sea connections 20-5-27, Completion of pumping arrangements 20-4-27, Engines tried under working conditions 24-5-27, Crank shaft, Material off steel, Identification Mark 5925 & 32 RLA, Flywheel shaft, Material off steel, Identification Mark 399, Thrust shaft, Material off steel, Identification Mark 1466 RLA, Intermediate shafts, Material off steel, Identification Marks 12420, Tube shaft, Material ✓, Identification Mark ✓, Screw shaft, Material off steel, Identification Mark 12399, 434

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

Is this machinery duplicate of a previous case yes ✓ If so, state name of vessel M.S. Marpassa.

General Remarks (State quality of workmanship, opinions as to class, &c.) The machinery of this vessel has been built under Special Survey. Materials & Workmanship good. Hydraulic test satisfactory. The whole of the machinery is efficiently installed & fixed in the vessel and tried & tested under working conditions and found satisfactory and good & safe working conditions and eligible in my opinion to be classed and to receive L.M.C. 5-27. Tail Shaft C.L. OG. Electric Light fitted for oil fuel 5-27 flash point above 150° F.

The amount of Entry Fee ... £ 6 : 0 0 : When applied for, Special ... £ 130 : 3 6 : 9.6 1927 Donkey Boiler Fee ... £ 19 : 16 0 : When received, STARTING AIR RECEIVERS Travelling Expenses (if any) £ 15 : 18 0 : 18.6 1927

Committee's Minute TUES. 14 JUNI 1927 Assigned Thome 5.27 cl

William Dutt Engineer Surveyor to Lloyd's Register of Shipping



NEWCASTLE-ON-TYNE

CERTIFICATE WRITTEN