

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Date of writing Report 28.12.29 When handed in at Local Office 28 Dec 29 Port of Hull
 Received at London Office 31 DEC 1929
 No. in Survey held at Hull. Date, First Survey 22 Jun 29 Last Survey 23 Dec 1929
 Reg. Book. 1375 on the T.S.S. "MARKLAND" (Number of Voids 47)
 Built at Hull. By whom built Earle's S.B. & C. Co. Ltd Yard No. 644 Tons { Gross 2453.84
 Net 1694.94
 made at Hull By whom made do Engine No. 644 When built 1929
 de at Hull By whom made do Boiler No. 644 when made 1929
 Horse Power Owners Henty Shipping Co. Ltd. Port belonging to Liverpool N.S.
 Power as per Rule 334 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Ys
 which Vessel is intended

S, & Co. Description of Engines Twin Screw Triple Expansion
 Cylinders 16" 27" 44" Length of Stroke 33" No. of Cylinders 6 Revs. per minute 118
 dia. of journals as per Rule 8.66 as fitted 8 7/8" Crank pin dia. 8 7/8" No. of Cranks 6
 Thrust shaft, diameter at collars as per Rule 8.66 as fitted 8 7/8" Thickness parallel to axis 5 3/4"
 Thickness around eye-hole 3 1/2"
 Shaft, diameter as per Rule 8.25 as fitted 8 1/2" Thrust shaft, diameter at collars as per Rule 9.1 as fitted 9 1/8"
 Is the tube shaft fitted with a continuous liner Ys
 Is the after end of the liner made watertight in the Ys
 If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner Ys
 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 Ys
 Are the shafts fitted, is the shaft lapped or protected between the liners Ys Is an approved Oil Gland or other appliance fitted at the after Ys
 Length of Bearing in Stern Bush next to and supporting propeller 3' 6"
 Pitch 10' 9" No. of Blades 4 Material C.S. whether Moveable Ys Total Developed Surface 41.0 sq. feet
 s worked from the Main Engines, No. Diameter 2 3/4" Stroke 20" Can one be overhauled while the other is at work Ys
 s worked from the Main Engines, No. Diameter 2 3/4" Stroke 20" Can one be overhauled while the other is at work Ys
 and size One pair, Wears, 7 1/2" x 5" x 8" Pumps connected to the Main Bilge Line { No. and size One 12" x 13" x 12" One 7" x 5" x 8"
 How driven Steam
 Lubricating Oil Pumps, including Spare Pump, No. and size Ys
 Independent means arranged for circulating water through the Oil Cooler Ys
 In Engine and Boiler Room 2 @ 2 1/2" E.R. 2 @ 2 1/2" Stokes. 1 @ 2 1/2" Coffman. 1 @ 2 1/2" best Kue.
 2 @ 2 1/4" N. 1. Hord. 4 @ 2 1/2" N. 2 Hord. 4 @ 2 1/2" N. 3 Hord. 4 @ 2 1/2" N. 4 Hord.
 1 @ 2 1/2" N. 5 Hord. 1 @ 2 1/2" E.R. well.

Circulating Pump Direct Bilge Suctions, No. and size 2 @ 6 1/2" Independent Power Pump Direct Suctions to the Engine Room Bilges,
 Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes Ys
 Suctions in the Machinery Space led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Ys
 Connections fitted direct on the skin of the ship Ys Are they fitted with Valves or Cocks Both Ys
 sufficiently high on the ship's side to be seen without lifting the stokehold plates Ys Are the Overboard Discharges above or below the deep water line Below
 fitted with a Discharge Valve always accessible on the plating of the vessel Ys Are the Blow Off Cocks fitted with a spigot and brass covering plate Ys
 ss through the bunkers Ys How are they protected Ys
 ss through the deep tanks Ys Have they been tested as per Rule Ys
 Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Ys
 vent 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
 another Ys Is the Shaft Tunnel watertight Ys Is it fitted with a watertight door Ys worked from Top platform

ILERS, & Co. (Letter for record (5)) Total Heating Surface of Boilers 5205 Sq. feet.
 Craft fitted Ys No. and Description of Boilers Three Simple ended Working Pressure 180 lbs. sq. in.
 PORT ON MAIN BOILERS NOW FORWARDED? Ys
 DONKEY BOILER FITTED? No If so, is a report now forwarded? Ys

Are approved plans forwarded herewith for Shafting Main Boilers Ys Auxiliary Boilers Ys Donkey Boilers Ys
 (If not state date of approval)
 General Pumping Arrangements Ys Oil fuel Burning Piping Arrangements Ys

YEAR. State the articles supplied: 8 Top end bolts & nuts, 4 Bottom end bolts & nuts, 4 main
 bolts & nuts, 2 sets coupling bolts & nuts, Air & bilge pump valves,
 up & valves for feed pumps, Impeller, Shaft & spare rings for
 pump, 2 Pairs crank pin brasses, 4 pairs crosshead brasses, Piston valve
 spare rings for H.P. & I.P. pistons, 2 Safety valve springs, 2 valves and
 for main checks, ant. checks, surface & bottom blow down valves,
 and tubes, 10 Plain tubes, 5 stay tubes, Escape valve springs for each
 One tail shaft & 4 propeller blades, with studs & nuts,
 rings, also bolts & nuts including bolts & nuts for eye covers etc.
 down bolts, & pin ring studs & nuts. Spare part is also included for
 for fan & electric engines, and oil burning installation.

The foregoing is a correct description,
 FOR EARLE'S
 SHIPBUILDING & ENGINEERING CO. LIMITED
 A.H. Tycker
 ASSISTANT MANAGER
 Manufacturer.

1929.
 June 22. July 1. Aug 2. 19. 21. 28. Sept 4. 7. 12. 13. 19. 20. 23. 26. 27. 30.
 Oct 10. 17. 23. 24. 31. Nov 4. 6. 8. 11. 15. 15. 18. 18. 19. 19. 20. 21. 22. 23. 26.
 27. 30. Dec 5. 7. 12. 13. 16. 20. 23. 23.
 Dates of Survey while building { During progress of work in shops - - }
 { During erection on board vessel - - - }
 Total No. of visits 47.

Dates of Examination of principal parts—Cylinders 10. 10. 29 Slides 10. 10. 29 Covers As for cylinders.
 Pistons 10. 10. 29 Piston Rods 7. 9. 29 Connecting rods 7. 9. 29
 Crank shaft P. 4. 9. 29 S. 27. 9. 29 Thrust shaft P. & S. 4. 9. 29 Intermediate shafts Burlington
 Tube shaft Burlington Screw shaft Burlington Propeller 6. 11. 29
 Stern tube 6. 11. 29 Engine and boiler seatings 27. 11. 29 Engines holding down bolts 27. 11. 29
 Completion of fitting sea connections 18. 11. 29
 Completion of pumping arrangements 16. 12. 29 Boilers fixed 27. 11. 29 Engines tried under steam 16. 12. 29
 Main boiler safety valves adjusted 5. 12. 29 Thickness of adjusting washers 1/32 1/32 23/64 23/64 23/64 23/64
 Crank shaft material Steel Identification Mark 472 Thrust shaft material Steel Identification Mark 472
 Intermediate shafts, material Steel Identification Marks 6406 M.R. Tube shaft, material Steel Identification Mark 6406 M.R.
 Screw shaft, material Steel Identification Mark 6406 M.R. Steam Pipes, material Steel Test pressure 540 lbs Date of Test 21. 11. 29
 Is an installation fitted for burning oil fuel Yes Is the flash point of the oil to be used over 150°F. Yes
 Have the requirements of the Rules for carrying and burning oil fuel been complied with Yes
 Is this machinery duplicate of a previous case No If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery of this vessel has been built under special survey & the materials & workmanship are sound & good. It has been satisfactorily fitted on board, tried under full working conditions & found in good order, together with oil fuel & water pumping arrangements. It is eligible in my opinion to have record of + L.M.C. 12. 29 C.L.

When leaving the River Thames for Glasgow on the 22nd December 1929 the nut of the port tail shaft loose coupling worked slack. The nut, coupling & keys all examined & found in good order. The coupling & nut hardened up & placed in good order. Some parts of starboard shaft were also examined & all found in good order.

It is submitted that this vessel is eligible for the Record.

+ L.M.C. 12. 29 C.L. F.D.

Fitted for oil fuel 12. 29 F.P. above 150°F.

The amount of Entry Fee ... £ 5 : 0 :
 Special ... £ 75 : 11 :
 Donkey Boiler Fee ... £ 0 : 3 :
 Travelling Expenses (if any) £ : :
 Insurance Certificate

When applied for, * 30 Dec 29.
 When received, * 3. 1. 30.
 29 Dec 1929.

John B. Mackenzie
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 10 JAN 1930

Assigned + L.M.C. 12. 29
 Fitted for Oil Fuel 12. 29 F.P. above 150°F