

REPORT ON OIL ENGINE MACHINERY.

No. 18809

7 DEC 1927

Received at London Office

Date of writing Report 30/9/27 When handed in at Local Office 1st December 1927 Port of Greenock
 No. in Survey held at Greenock Date, First Survey 2nd March 1926 Last Survey 1st December 1927
 Ref. Book. 911 Number of Visits 136

on the Twin Screw vessels SM/V Pacific Enterprise Tons ^{Gross} 136 _{Net}
 Built at Glasgow By whom built Blythwood S.S. Co. Ltd Yard No. 15 When built 1927
 Engines made at Greenock By whom made John Kennedy & Co. Ltd Engine No. 11 When made 1927
 Donkey Boilers made at London By whom made Babcock & Wilcox Ltd Boiler No. When made 1927
 Brake Horse Power 3780 Owners Queen Mary Co. Ltd Port belonging to London
 Indicated Horse Power as per Rule 946 Is Refrigerating Machinery fitted for cargo purposes yes Is Electric Light fitted yes

ENGINES, &c. Type of Engines Burrmeister & Co. (2 cyl) 4 stroke cycle Single double acting Single
 Maximum pressure in cylinders 500 No. of cylinders 16 Diameter of cylinders 630 mm No. of cranks 16 Length of stroke 1300 mm
 Position of bearings, adjacent to the Crank, measured from inner edge to inner edge 884 mm Is there a bearing between each crank yes
 Revolutions per minute 110 Crank pin dia. 1930 mm Weight 1460 kgs Means of ignition Compression Kind of fuel used Diesel
 Crank Shaft, dia. of journals as per Rule 412.5 Crank pin dia. 420 mm Crank Webs as per Rule 660 mm Thickness parallel to axis 240 mm
 as fitted 420 mm Mid. length thickness 240 mm Thickness around eye-hole 186 mm
 Wheel Shafts, diameter as per Rule on approval Intermediate Shafts, diameter as per Rule 12.37 Thrust Shaft, diameter at collar as per Rule 12.93
 as fitted 420 mm as fitted 12 3/4 as fitted 13 3/8
 Propeller Shafts, diameter as per Rule Screw Shaft, diameter as per Rule 13.42 Is the tube shaft fitted with a continuous liner yes
 as fitted as fitted 13 7/8 screw
 Bronze Liners, thickness in way of bushes as per Rule 408 Thickness between bushes as per Rule 56 Is the after end of the liner made watertight in the
 as fitted 3/4 as fitted 5/8 yes

Is the liner 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
 When 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 shaft no Length of Bearing in Stern Bush next to and supporting propeller 55 1/2
 Propeller, dia. 13.3 Pitch 14-10 No. of blades 3 Material Bronze whether Moveable no Total Developed Surface 53 sq. feet
 Method of reversing Engines air Is a governor or other arrangement fitted to prevent racing of the engine when disengaged yes Means of lubrication
forced Thickness of cylinder liners 36 to 46 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with
 non-conducting material lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being siphoned back to the engine Funnel

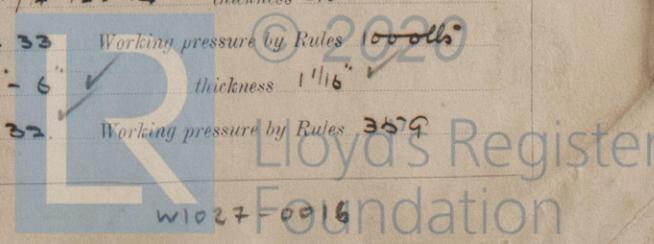
Boiling Water Pumps, No. 2 Drysdale 4 dia Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes
 Bilge Pumps fitted to the Main Engines, No. None Diameter Stroke Can one be overhauled while the other is at work yes
 Pumps connected to the Main Bilge Line { No. and Size Three 10x10 6x6 one 4" Centric
 How driven Electric Motor
 Ballast Pumps, No. and size one 10x10 Lubricating Oil Pumps, including Spare Pump, No. and size 3.6
 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 Engine and Boiler Room 4 at 3 1/2 Tunnel Well 1.2 1/2

Holds, &c. no 1. 2. 3 no 2. 2. 3 no 3. 2. 3 no 4. 2. 3 no 5. 2. 3 no 6. 2. 3
 Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2 at 4 one at 5
 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes Are the Bilge Suctions in the Machinery Space
 leaded 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 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
 How are they protected
 That pipes pass through the bunkers Have they been tested as per Rule yes
 That pipes pass through the deep tanks None

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 yes Is it fitted with a watertight door yes worked from VER Platform
 If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Main Air Compressors, No. 2 No. of stages 3 Diameters 450-675-1150 mm Stroke 420 mm Driven by Main Engine
 Auxiliary Air Compressors, No. see London Rept no 91823 Diameters Stroke Driven by
 Small Auxiliary Air Compressors, No. one No. of stages 2 Diameters 34-106 mm Stroke 80 mm Driven by Steam
 Scavenging Air Pumps, No. Diameter Stroke Driven by
 Auxiliary Engines crank shafts, diameter as per Rule see London Rept no 91823
 as fitted

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule yes
 Can the internal surfaces of the receivers be examined yes What means are provided for cleaning their inner surfaces manholes
 Is there a drain arrangement fitted at the lowest part of each receiver yes
 High Pressure Air Receivers, No. 8 Cubic capacity of each 4.2, 2.0, 1.5, 1.5, 1.5, 1.5, 1.5, 1.5 Internal diameter 4 1/4, 12, 14 thickness 3/8, 1/2
 Seamless, lap welded or riveted longitudinal joint Seamless Material Steel Range of tensile strength 29.33 Working pressure by Rules 100 lbs
 Starting Air Receivers, No. 3 Total cubic capacity 17.50 CF Internal diameter 6-6 thickness 1 1/16
 Seamless, lap welded or riveted longitudinal joint Riveted Material S Range of tensile strength 28/32 Working pressure by Rules 357.9



IS A DONKEY BOILER FITTED? *yes*
 HYDRAULIC TESTS:—

If so, is a report now forwarded? *yes*

| DESCRIPTION. | DATE OF TEST. | WORKING PRESSURE. | TEST PRESSURE. | STAMPED. | REMARKS. |
|----------------------------|-------------------|-------------------|----------------|----------|--------------|
| ENGINE LINERS | 14. 5- 26 | | 500 | WGM, LR | Satisfactory |
| " " COVERS | 27- 7- 26 | | 1000 | " " | " |
| " " JACKETS | 19. 8- 26 | | 50 | " " | " |
| " " PISTON WATER PASSAGES | 26- 10- 26 | | 100 | " " | " |
| MAIN COMPRESSORS—1st STAGE | 27. 12- 26 | | 2000 | " " | " |
| " " 2nd " | 29- 10- 26 | | 500 | " " | " |
| " " 3rd " | 29. 10- 26 | | 150 | " " | " |
| AIR RECEIVERS—STARTING | ✓ | | 2000 | LR, SH | Sheffield |
| " " INJECTION | ✓ | | 2000 | | |
| AIR PIPES | 24/10. 5 2-11- 27 | | 2000 | LR WGM | Satisfactory |
| FUEL PIPES | 19. 1- 27 | | 2000 | " " | " |
| FUEL PUMPS | 14. 1- 27 | | 2000 | " " | " |
| SILENCER | ✓ | | ✓ | ✓ | ✓ |
| " " WATER JACKET | ✓ | | ✓ | ✓ | ✓ |
| SEPARATE FUEL TANKS | 16. 9. 27 | | 10 | LR WGM | Satisfactory |

PLANS. Are approved plans forwarded herewith for Shafting *yes* Receivers *yes* Separate Tanks *yes*
 (If not, state date of approval) Donkey Boilers *✓* General Pumping Arrangements *✓* Oil Fuel Burning Arrangements *✓*

SPARE GEAR *see list attached*

The foregoing is a correct description
 FOR JOHN G. RINCAID & COY., LIMITED.

Robert Green Manufacturer.

Dates of Survey while building
 During progress of work in shops: (1926) Mar 2-15-18-22-24 April 2-9-13-23-26 May 3-5-6-10-14-25-27 June 3-14-17-21-23-29 July 13-20-22-24-28-30 Aug 2-5-10-14-19-20-26-28 Sept 1-5-10-14-21-23 Oct 4-5-11-12-13-14-18-20-21-24-25-27 Nov 1-2-4-10-14-15-24-25-29 Dec 1-2-10-11-12-13-14-18-20-21-24-25-27
 During erection on board vessel: 29 Nov 2-5-8-15-18-19-22-23-26 Dec 2-9-10-13-15-20-23-24 (1927) Jan 6-10-13-14-18-19-21-24-29-31 Feb 3-8-23-24 Mar 2-8-9-14-17 Apr 12-15-21 May 3-13-30 June 15-29 Aug 16-24-25-29-31 Sept 1-3-5-6-10-14-16-21-26-30 Oct 3-6-7-11-12-13-14-17-18-20-21-24-25-27 Nov 1-2-4-10-14-15-24-25-29 Dec 1-2-10-11-12-13-14-18-20-21-24-25-27
 Total No. of visits 136

Dates of Examination of principal parts—Cylinders 14. 5-26 Covers 27. 4-26 Pistons 26. 10-26 Rods 15-11-26 Connecting rods 15-11-26
 Crank shaft 12-4-27 Flywheel shaft 15-11-26 Thrust shaft 15-11-26 Intermediate shafts 19-1-27 Tube shaft ✓
 Screw shaft 5-9-27 Propeller 5-9-27 Stern tube 3-9-27 Engine seatings *see 4th Rept* Engines holding down bolts 1-11-27
 Completion of filling sea connections *see 4th Rept* Completion of pumping arrangements 24-11-27 Engines tried under working conditions 25-11-27

Crank shaft, Material S Identification Mark LR K. 11 WGM Flywheel shaft, Material S Identification Mark LR 12741, 486 WGM
 Thrust shaft, Material S Identification Mark LR 12741, 486 WGM Intermediate shafts, Material S Identification Marks LR 1599, 158, 160, 158
 Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material S Identification Mark LR 12715 WGM

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/V Pacific Reliance Ent Rep. No. 184*

General Remarks (State quality of workmanship, opinions as to class, &c.)
*These Engines 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, found satisfactory.
 The Machinery is eligible in my opinion for the record of LMC 12-27. Abolition of 10 B 100th*

The amount of Entry Fee ... £ 6 : - : When applied for,
 Special ... £ 122 : 5 : 1st December 27.
 Boiler Fee ... £ 12 : 12 : When received,
 Air Receiver
 Travelling Expenses (if any) £ : : 5-12-27

Committee's Minute **GLASGOW 6-DEC 1927**

Assigned + LMC 12 27

W. Gordon-Muclius
 Engineer Surveyor to Lloyd's Register of Shipping.



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GREENOCK
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)