

pt. 4b.

## REPORT ON OIL ENGINE MACHINERY.

No. 8079.

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Date of writing Report 11<sup>th</sup> September 1929 When handed in at Local Office 12<sup>th</sup> September 1929 Port of Copenhagen

in Survey held at Copenhagen

Date, First Survey 11<sup>th</sup> January Last Survey 6<sup>th</sup> September 1929

Number of Visits 95.

758 on the <sup>Single</sup> Twin <sup>Triple</sup> Quadruple

Motor "PACIFIC RANGER"

Tons { Gross 6866.46  
Net 4186.33

Built at Copenhagen

By whom built Akt. Burmeister &amp; Wain's

Yard No. 561 When built 1929

Engines made at Copenhagen

By whom made Akt. Burmeister &amp; Wain's

Engine No. 1643 When made 1929

Key Boilers made at Lincoln

By whom made Babcock &amp; Wilcox Ltd.

Boiler No. 74593 When made 1929

Horse Power 3400

Owners The Transoceanic Steamship Co. Ltd.

Port belonging to London

Horse Power as per Rule 946

Is Refrigerating Machinery fitted for cargo purposes yes

Is Electric Light fitted yes

Trade for which vessel is intended Ocean trade. General cargo and fruit.

**ENGINES, &c.**—Type of Engines Vertical Diesel Oil Engines (Crosshead type) 2 or 4 stroke cycle 4 Single or double acting Single

Minimum pressure in cylinders 35 kg/cm<sup>2</sup> Diameter of cylinders 630 mm = 24 3/16" Length of stroke 300 mm = 5 1/16" No. of cylinders 2 x 8 No. of cranks 2 x 8

No. of bearings, adjacent to the Crank, measured from inner edge to inner edge 892 mm Is there a bearing between each crank No

Revolutions per minute 115 Turning wheel dia. 1902 mm Weight 1180 kg. Means of ignition Air compression Kind of fuel used Cude oil, flash point above 180° F.

Crank Shafts dia. of journals as per Rule 412.5 mm as fitted 414 mm Crank pin dia. 414 mm Crank Webs Mid. length breadth 720 mm Mid. length thickness 246 mm Thickness parallel to axis 266 mm Thickness around eye hole 193 mm

Wheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule 11.8" as fitted 12" Thrust Shaft, diameter at collars as per Rule 12.39" as fitted 12 1/2"

Propeller Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 12.9" as fitted 13 1/2" Is the screw shaft fitted with a continuous liner Yes

Brass Liners, thickness in way of bushes as per Rule 0.711" as fitted 13/16" - 7/8" Thickness between bushes as per rule 0.58" as fitted 5/8" Is the after end of the liner made watertight in the

eller boss Yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner Liners in one length

he 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

two liners are fitted, is the shaft lapped or protected between the liners Is an approved Oil Gland or other appliance fitted at the after end of the tube

If so, state type Length of Bearing in Stern Bush next to and supporting propeller 5.9" ✓

Propeller, dia. 13'-3" Pitch 4'-10" No. of blades 3 Material Bronze whether Moveable No Total Developed Surface 53 sq. feet

Method of reversing Engines Direct reversible Is a governor or other arrangement fitted to prevent racing of the engine when racing Means of lubrication

Lubrication Thickness of cylinder liners 4.6 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with

conducting material Lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine Led up inside the funnel.

Boiling Water Pumps, No. 2 off. Centrifugal pumps, 225 tons each Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Large Pumps worked from the Main Engines, No. none Diameter Stroke Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line { No. and Size 1 off. ballast pump, 200 tons, 2 off. bilge pumps, 50 tons each. How driven by electric motor. by electric motors.

Ballast Pumps, No. and size 1 off. duplex piston pump, 200 tons Lubricating Oil Pumps, including Spare Pump, No. and size 3 off. cog wheel pumps, 45 tons each

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 4 off. 3 1/2" dia. In tunnel well 1 off. 2 1/2" dia. In duct keel 1 off. 2" dia. In IB tanks 4" dia wing and 5" at centre (P & S)

Holds, &c. In No. 1, 2 & 3 holds 2 off in each (P & S) 3" dia. In No. 4 hold (Sump tank) 2 off (P & S) 3 1/2" dia and 2 off Centre 6" dia. In No. 5 & 6 holds one off in each 3" dia. In FPT & RPT one off in each 4" dia.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2 off. 3 1/2" diam. 1 off. 5" diam.

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

all Sea Connections fitted direct on the skin of the ship. Yes Are they fitted with Valves or Cocks. Valves except the donkey boiler blow off cocks.

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

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

at pipes pass through the bunkers. no bunkers. How are they protected

at pipes pass through the deep tanks. none, pipes pass through the duct keel Have they been tested as per Rule

all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times. Yes

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

partment to another. Yes Is the Shaft Tunnel watertight. Yes Is it fitted with a watertight door. Yes worked from the engine grating at the upper deck level.

in a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork. A. B. C.

in Air Compressors, No. 2 off No. of stages 3 Diameters 750-675-150 mm Stroke 440 mm Driven by the main engines

Auxiliary Air Compressors, No. 3 off No. of stages 3 Diameters 320-270-70 mm Stroke 330 mm Driven by the auxiliary engines

all Auxiliary Air Compressors, No. 1 off No. of stages 2 Diameters 106 — 34 mm Stroke 80 mm Driven by a steam engine

Avenging Air Pumps, No. Diameter Stroke Driven by

Auxiliary Engines crank shafts, diameter as per Rule 202.19 mm as fitted 204.0 mm

3 Ann. Oil Engines fitted

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

the internal surfaces of the receivers be examined. Yes What means are provided for cleaning their inner surfaces Starting air receivers fitted with manholes Piping arrangement made for cleaning injection air bottles by steam.

there a drain arrangement fitted at the lowest part of each receiver. Yes Litres 225-450 Internal diameter 15 3/4" 450 mm 7 1/4" 12 1/2" thickness 5/8" 20 mm 3/8" 1/2"

High Pressure Air Receivers, No. 2 off. working for main engines. 3 off. working for aux. engines. Cubic capacity of each 35-200 Range of tensile strength 22.2-31.5 kg/cm<sup>2</sup> Working pressure by Rules 10-15 kg/cm<sup>2</sup> 10-15 kg/cm<sup>2</sup> 10-15 kg/cm<sup>2</sup> 10-15 kg/cm<sup>2</sup>

all for 2-kg/cm<sup>2</sup> Seamless Material S.M. Steel Thickness 1 1/8" 1 1/8" 1 1/8" 1 1/8"

Starting Air Receivers, No. 3 off. Total cubic capacity 1725 Cubic feet. Internal diameter 5'-11 1/16" and 6'-1" thickness 1 1/8" 1 1/8" 1 1/8" 1 1/8"

Seamless, lap welded or riveted longitudinal joint. Double butt straps. Material S.M. Steel Range of tensile strength 44.3-47.2 kg/cm<sup>2</sup> Working pressure by Rules 25.5 kg/cm<sup>2</sup>



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