

REPORT ON OIL ENGINE MACHINERY.

No. 18763

Received at London Office

17 SEP 1927

Report 1.4.1927 When handed in at Local Office 14th Sept. 1927 Port of Greenock

Survey held at Greenock Date, First Survey 14th February 1926 Last Survey 14th September 1927

on the ~~Twin~~ ^{m/s} Pacific Reliance ^{Number of Visits 128}

Greenock By whom built Blythwood Sts Ltd Yard No. 14 When built 1924

is made at Greenock By whom made John E. Niccaid & Co Engine No. 110 When made 1924

Boilers made at Lincoln By whom made Babcock & Wilcox Ltd Boiler No. - When made 1927

Horse Power 3780 Owners Furness Withy & Co Ltd Port belonging to London

Horse Power as per Rule 945 Is Refrigerating Machinery fitted for cargo purposes yes Is Electric Light fitted yes

ENGINES, &c.—Type of Engines Brunswick Main (2 sets) 4 stroke cycle 4 Single or double acting Single

pressure in cylinders 500 No. of cylinders 16 Diameter of cylinders 630 mm No. of cranks 16 Length of stroke 500 mm

cranks, adjacent to the Crank, measured from inner edge to inner edge 884 mm Is there a bearing between each crank yes

s per minute 110 Turning dia. 1930 mm Weight 1460 kg Means of ignition Compression Kind of fuel used Diesel

shaft, dia. of journals as per Rule 412.5 as fitted 420 mm Crank pin dia. 420 mm Crank Webs Mid. length breadth 660 mm Thickness parallel to axis 270 mm

Shafts, diameter as per Rule 12.32 as fitted 12 3/4" Thrust Shaft, diameter at collars as per Rule 12.93 as fitted 13 3/8"

as per Rule 13.42 as fitted 13 7/8" Is the screw shaft fitted with a continuous liner yes

liners, thickness in way of bushes as per Rule 7.08 as fitted 3/4" Thickness between bushes as per Rule 5.6 as fitted 5/8" Is the after end of the liner made watertight in the

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner yes

r 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

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

tube shaft No Length of Bearing in Stern Bush next to and supporting propeller 55 1/2"

r, dia. 13.3 Pitch 14-10 No. of blades 3 Material Bronze whether Moveable No Total Developed Surface 53 sq. feet

of reversing Engines air Is a governor or other arrangement fitted to prevent racing of the engine when detached yes Means of lubrication

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

Lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine Tunnel

Water Pumps, No. 2 Duple's 4" Dia Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes

umps fitted to the Main Engines, No. None Diameter Stroke Can one be overhauled while the other is at work -

connected to the Main Bilge Line No. and Size Three 10x10 6x6 one 4" Centre Electric Motor

pumps, No. and size one 10x10 Lubricating Oil Pumps, including Spare Pump, No. and size 3 6"

dependent means arranged for circulating water through the Oil Cooler yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

o. and size:—In Engine and Boiler Room 4 at 3 1/2 Tunnel Well 1.2 1/2"

No. 1-2.3 No. 2-3 No. 3-3 No. 4-2.3 No. 5-2.3 No. 6-2.3

lent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2 at 4" one at 5"

e Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes Are the Bilge Suctions in the Machinery Space

asily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges yes

a Connections fitted direct on the skin of the ship yes Are they fitted with Valves or Cocks both

ed 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

ch 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

pass through the bunkers How are they protected

pass through the deep tanks none Have they been tested as per Rule

es, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes

ngement 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

d to another yes Is the Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from UER Platform

essel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Compressors, No. Two No. of stages 3 Diameters 150-6 1/2 + 150 Stroke 420 mm Driven by Main Engines

Air Compressors, No. see London Refl No 91594 attached Diameters Stroke Driven by

Auxiliary Air Compressors, No. one No. of stages 2 Diameters 34-106 Stroke 80 mm Driven by Steam

ing Air Pumps, No. Diameter Stroke Driven by

Engines crank shafts, diameter as per Rule see London Refl. No 91594 attached as fitted

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

ernal surfaces of the receivers be examined yes What means are provided for cleaning their inner surfaces Manholes

drain arrangement fitted at the lowest part of each receiver yes 1 additional Slitting Reamer 4/16 dia. fitted

ssure Air Receivers, No. 8 10 Cubic capacity of each 3 at 200 lbs Internal diameter 14.12-14 thickness 3/8-1/2

p welded or riveted longitudinal joint Seamed Material Steel Range of tensile strength 29.33 Working pressure by Rules 1000 lbs

Air Receivers, No. 3 Total cubic capacity 1440 CF Internal diameter 6-6 thickness 1/16

p welded or riveted longitudinal joint Riveted Material S Range of tensile strength 28/32 Working pressure by Rules 359

IS A DONKEY BOILER FITTED?

yes

If so, is a report now forwarded?

HYDRAULIC TESTS:-

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS <i>liners</i>	4-3-26 to 5-4-26		500 lbs	WGM. L.R.	Satisfactory.
" " COVERS	5-5-26 to 27.5-26		1000 lbs	" "	✓
" " JACKETS	23-6-26 to 30.6-27		50 lbs	" "	✓
" PISTON WATER PASSAGES	4-10-26		100 lbs	" "	✓
MAIN COMPRESSORS—1st STAGE	16 9. 26		2000 lbs	" "	✓
" 2nd "	14. 9. 26		500 lbs	" "	✓
" 3rd "	16 9. 26		150 lbs	" "	✓
AIR RECEIVERS—STARTING	17. 9. 26	<i>See Cert. attached</i>	2000 lbs	J.P. L.R.	} Sheffield.
" INJECTION	14. 10. 26		2000 lbs	J.P. L.R.	
AIR PIPES	2. 12. 26			WGM. L.R.	Satisfactory
FUEL PIPES	3 12. 26		2000 lbs	" "	✓
FUEL PUMPS	16. 12. 26		2000 lbs	" "	✓
SILENCER	✓		✓	✓	✓
" WATER JACKET	✓		✓	✓	✓
SEPARATE FUEL TANKS	5-4-27	✓	10 lbs	W.G.M. L.R.	✓

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

yes

Receivers

yes

Separate Tanks

yes

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR

see separate list attached

For JOHN G. KINCAID & COY. LIMITED

The foregoing is a correct description,

J.G. Kincaid

DIRECTOR

Manufacturer.

Dates	During progress of work in shops--	(1926) Feb. 14-24 Mar. 2-5 8-10-15-18-19-24 Apr. 2-5 9-23 26 May 3-5 10-11-25 24 June 3-14 14-21-23 24-29 July 14-22-26-27 28-30 Aug. 2-4 5-10-12-14-18-19-20-28-30 Sep. 1-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30 Oct. 1-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30 Nov. 1-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30 Dec. 1-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30
of Survey while building	During erection on board vessel--	Oct. 4-5 8-12-15-19-22-25 Nov. 5-8-10-11-12-15-22-23-29-30 Dec. 2-3 4-9-13-16-21-24 (1927) Jan. 13-19-21-31 Feb. 1-4 Mar. 2-3 12-21 Apr. 12-14-15-18 May 13-30 June 10-15-16-17-22-23-24-25-26-27-28-29-30 July 1-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30 Aug. 1-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30 Sep. 1-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30 Oct. 1-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30 Nov. 1-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30 Dec. 1-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30
	Total No. of visits	128

Dates of Examination of principal parts—Cylinders 4. 3. 26 Covers 27. 5. 26 Pistons 4. 10. 26 Rods 23. 9. 26 Connecting rods 24. 10. 26

Crank shaft 18. 8. 26 Flywheel shaft 15. 11. 26 Thrust shaft 15. 11. 26 Intermediate shafts 19. 1. 24 Tube shaft 19. 1. 24

Screw shaft 15. 6. 27 Propeller 14. 6. 27 Stern tube 15. 6. 27 Engine seatings *see Report* Engines holding down bolts 15. 6. 27

Completion of fitting sea connections *see Report* Completion of pumping arrangements 9. 9. 24 Engines tried under working conditions 9. 9. 24

Crank shaft, Material S Identification Mark L.R. K 10 WGM Flywheel shaft, Material S Identification Mark 15 21. 18

Thrust shaft, Material S Identification Mark 15 21. 1438 WGM Intermediate shafts, Material S Identification Marks 1488, 1580, 1430, 1471

Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material S Identification Mark 1432, 14

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

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.) These Engines have been

under special survey in accordance with the approved plan. The workmanship & material are of good quality. They have been securely fitted on board and are under working conditions. Found satisfactory.

The Machinery is eligible in my opinion for the Record. L.M.C. 9.27. Notation of D.B. 100 lbs.

It is submitted that this vessel is eligible for THE RECORD. L.M.C. 9.27. C.L.

OIL ENGINES 45CSA 16cy. 24 3/4 - 51 1/2. NHP 946. 21. 9. 27. D.B. 100 lbs.

The amount of Entry Fee ... £ 6 : - : 1 When applied for,

Special ... £ 122 : 5 : 15 15th Sept. 1927

Donkey Boiler Fee ... £ 12 : 12 : 1 When received,

Travelling Expenses (if any) £ : : 21. 9. 27

Committee's Minute TUES. 20 SEP 1927

Assigned L.M.C. 9.27. C.L.

Oil Engines D.B. 100 lbs. CERTIFICATE WRITTEN.

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



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