

# REPORT ON OIL ENGINE MACHINERY.

No. 86378.

24 JAN 1924

Received at London Office

Date of writing Report

19... When handed in at Local Office

Port of

LIVERPOOL

No. in Survey held at Reg. Book.

BIRKENHEAD.

Date, First Survey

3rd Oct. /22.

Last Survey

23rd Jan 1924

24987 on the

Single  
Twin  
Triple

Screw vessels

"LA PLAYA" (DIESEL ELECTRIC SHIP)

Tons { Gross 3682  
Net 2744

Master Built at Birkenhead By whom built Cammell Laird & Co Ltd Yard No. 894 When built 1924-5

Engines made at Birkenhead By whom made Cammell Laird and Co Ltd Engine No. 894 When made 1924

Donkey Boilers made at Birkenhead By whom made Cammell Laird and Co Ltd Boiler No. 894 When made 1924

Brake Horse Power 3300 total Owners Maffraico S.S. Co Ltd (Clark & Service Mgrs) Port belonging to Glasgow.

Nom. Horse Power as per Rule 444 total Is Refrigerating Machinery fitted for cargo purposes Yes. Is Electric Light fitted Yes.

## OIL ENGINES, &c.

Type of Engines

Camelland Fullagar enclosed 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders

550

No. of cylinders

4 engines  
4 cylinders per engine

No. of cranks

4

Diameter of cylinders

14"

Length of stroke

16" x 2 = 32"

Revolutions per minute

250

Means of ignition

Compression Temperature

Kind of fuel used

Heavy oil

Is there a bearing between each crank

No.

Span of bearings (Page 92, Section 2, par. 7 of Rules)

3'-5 3/4"

Distance between centres of main bearings

A'-5 3/4"

Is a flywheel fitted

Yes.

Diameter of crank shaft journals

as per Rule 9 1/2"  
as fitted

Diameter of crank pins

9 1/2"

Breadth of crank webs

as per Rule 13 1/2"  
as fitted

Thickness of ditto

as per Rule 4 3/4"  
as fitted

Diameter of flywheel shaft

as per Rule 9 1/2"  
as fitted

Diameter of tunnel shaft

as per Rule 12 5/8"  
as fitted

Diameter of thrust shaft

as per Rule 13 1/4"  
as fitted

Diameter of screw shaft

as per Rule 13 7/8"  
as fitted

Is the screw shaft fitted with a continuous liner the whole length of the stern tube

Yes.

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 joints burned

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.

If two liners are fitted, is the shaft lapped or protected between the liners

Yes.

If without liners, is the shaft arranged to run in oil

Yes.

Type of outer gland fitted to stern tube

Yes.

Length of stern bush

A'-7 1/4"

Diameter of propeller

16 feet

Pitch of propeller

15'-9"

No. of blades

3

state whether moveable

Yes.

Total surface

72 square feet

Method of reversing

Electric

Is a governor or other arrangement fitted to prevent racing of the engine when declutched

Yes.

Thickness of cylinder liners

1 1/2"

Are the cylinders fitted with safety valves

Yes.

Means of lubrication

Faced

Are the exhaust pipes and silencers water cooled or lagged with non-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

Exhaust led up funnel

No. of cooling water pumps

2

Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Yes.

No. of bilge pumps fitted to the main engines

2

Diameter of ditto

5"

Stroke

5"

Can one be overhauled while the other is at work

Yes.

No. of auxiliary pumps connected to the main bilge lines

4

How driven

2 1/2 Steam  
1-6" Electric  
1-4" 1-2 1/2 (Parallel)  
1-2 1/2

Sizes of pumps

1 Steam 7 x 15" Simplex  
1 Electric 5 x 6" Duplex  
1 Centrifugal 4 1/2" Suct  
3-2 1/2" from aft. 2-2 1/4" from forward.

No. and sizes of suction connected to both main bilge pumps and auxiliary bilge pumps:—In engine room

No. of ballast pumps

one

How driven Electric Centrifugal

Sizes of pumps 4 1/2" Suct 4" Diod.

Is the ballast pump fitted with a direct suction from the engine room bilges

No.

State size

Is a separate auxiliary pump suction fitted in Engine Room and size

Yes. 2-6" line  
1-2 1/2"

Are all the bilge suction pipes fitted with roses

Yes.

Are the roses in Engine Room always accessible

Yes.

Are the sluices on Engine Room bulkheads always accessible

Yes.

Are all connections with the sea direct on the skin of the ship

Yes.

Are they valves or cocks

Both

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

Yes.

Are the discharge pipes 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 all pipes, cocks, valves and pumps in connection with the machinery accessible at all times

Yes.

Are the bilge suction pipes, cocks and valves arranged so as to prevent any communication between the sea and the bilges

Yes.

Is the screw shaft tunnel watertight

Yes.

Is it fitted with a watertight door

Yes.

worked from

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

No. of main air compressors

A, 1 on each engine

No. of stages

3.

Diameters

14", 12 1/2", 2 7/8"

Stroke

13 1/2"

Driven by Main engine

No. of auxiliary air compressors

None

No. of stages

Yes.

Diameters

Yes.

Stroke

Yes.

Driven by

Electric motor.

No. of small auxiliary air compressors

One

No. of stages

2

Diameters

5", 1 1/16"

Stroke

4"

Driven by

Main engine

No. of scavenging air pumps

16, A on each engine

Diameter

3A x 14 1/2" rectangular

Stroke

1A"

Driven by

Main engine

Diameter of auxiliary Diesel Engine crank shafts

as per Rule

as fitted

Are the air compressors and their coolers made so as to be easy of access

Yes.

## IR RECEIVERS:—No of high pressure air receivers

A.

Internal diameter

9 3/8"

Cubic capacity of each

3.25 cub ft.

Material

Open Heath M.S.

Seamless, lap welded or riveted longitudinal joint

Seamless.

Range of tensile strength

28-32 tons

Thickness

7/16

working pressure by Rules

12.10 lb.

No. of starting air receivers

A.

Internal diameter

17 5/8"

Total cubic capacity

73 cub feet

Material

Open Heath M.S.

Seamless, lap welded or riveted longitudinal joint

Seamless.

Range of tensile strength

28-32 tons

thickness

7/16

Working pressure by rules

1100 lb

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.

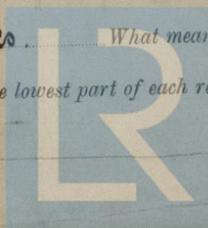
What means are provided for cleaning their inner surfaces

Yes.

Startling " " 3 3/4" hole at each end. 8 3/4" hole at bottom + 4 1/2" dia hole at top.

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

Yes.



Lloyd's Register Foundation

IS A DONKEY BOILER FITTED? *Yes.*

If so, is a report now forwarded? *Yes.*

*See Inck report 5181.*

HYDRAULIC TESTS:—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS .....	30/1/23. 30/12/23				
COVERS .....	✓	✓	✓	✓	✓
JACKETS.....	30/1/23. 30/12/23	12 lbs	50 lbs	J.O. J.W.L.	
PISTON WATER PASSAGES.....	8/2/23. 23/7/23.	12 lbs.	50 lbs	J.O. J.W.L.	
MAIN COMPRESSORS—1st STAGE.....	16/3/23. 22/5/23.	50 lbs.	100 lbs.	J.O. J.W.L.	
2nd .....	16/3/23. 22/5/23.	250 lbs	500 lbs	J.O. J.W.L.	
3rd .....	23/2/23. 19/5/23.	1200 lbs	2400 lbs.	J.O. J.W.L.	
AIR RECEIVERS—STARTING .....	5/7/23. 20/7/23.	1200 lbs	2400 lbs.	J.O. J.W.L.	
INJECTION .....	28/6/23. 11/7/23.	1200 lbs	2400 lbs.	J.O. J.W.L.	
AIR PIPES .....	4/6/23 5/9/23.	1200 lbs.	2400 lbs.	J.O. J.W.L.	
FUEL PIPES .....	22/6/23. 5/9/23.	1200 lbs	2400 lbs.	J.O. J.W.L.	
FUEL PUMPS .....	14/6/23. 5/9/23.	1200 lbs.	2400 lbs.	J.O. J.W.L.	
SILENCER .....	NOT TESTED.				
WATER JACKET .....	NONE.				
SEPARATE FUEL TANKS .....	28/6/23 5/7/23.		15 lbs.	J.O. J.W.L.	

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

Receivers

Separate Tanks

SPARE GEAR

SEE ATTACHED LISTS.

The foregoing is a correct description.

**PARSONS LAIRD & COMPANY LIMITED**

*J. W. Laird* Manufacturer.

Dates of Survey while building	During progress of work in shops— 16.18.19.22.23. 25. 29.30.31. 26. 1.5. 8.14.15.16.17. 19. 22.23.28. 29. 1.2.7.12.14.16. 20.26.28.29. 3.9.11.17. 19. 26.28.30. 1.2.4.4.7.8.16. 4. 27.28.30.31. 5. 9.5.7.10. 11.12.13.14.15.19. 20. 22. 27.28.29. July. 2.4.5.6.11.13.16. 19. 18.20. 21. 23. 24.25.26.27.30. Aug. 2.9.11.12.16. 17. 18.20. 27.28.30.31. 5. 9.5.7.10. 11.12.13.14.15.16. 17. 18.21. 22.24.26. 27. 29. 1.5. 4.12.13.16. 17. 19. 1.11.19. 22. 26. 29. Dec. 2.5.7.8.9. 12.14.15.16. 17.18.19. 20.21.30. 1924—Jan. 2.11. 15.16.17. 18.21. 23.
Dates of Examination of principal parts—Cylinders	31/10/22 18/11/24. Covers ✓
Crank shaft	4/12/23 4/7/23. Thrust shaft 1/22 1/23. Tunnel shafts 1/22 1/23. Screw shaft 6/9/22 1/23. Propeller 1/23 23/24. Stern tube 28/1/22 1/23. Engine seatings 1/6/23
Engines holding down bolts	9/8/23. Completion of pumping arrangements 10/9/23. Engines tried under working conditions 15/11/24 17/11/23
Completion of fitting sea connections	17/4/23. Stern tube 12/4/23. Screw shaft and propeller 17/4/23.
Material of crank shaft	Steel Identification Mark on Do. 644, 645, 647, 648, 649. Material of thrust shaft Steel Identification Mark on Do. 1112 P.M.G. 31/11
Material of tunnel shafts	Steel Identification Marks on Do. 6279 J.P. 10/10/22. Material of screw shafts Steel Identification Marks on Do. 6263 J.P. 29/11

Is the flash point of the oil to be used over 150° F. *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 constructed under special survey and in accordance with the approved plans as Secretary letters (E) 21.8.22, 23.8.22, 14.12.23, 8.6.23 + 21.8.23. The materials and workmanship are of good quality and on completion the machinery was tried under full working conditions at sea and found satisfactory in every respect. The machinery is eligible in our opinion to be recorded in the Register Book with notation + L.M.C 1.24. NOTE. On completion of the first sea trials lasting several days the water jackets of all cylinders were found fractured. The whole of the cylinders have now been renewed with a slight alteration in the design and made of special milled metal not less than 12 tons tensile. After a further trial, on completion, lasting several days the whole of the cylinders and jackets were opened out, examined, and retested and all found satisfactory and in good condition.

The amount of Entry Fee ...	£ 5 : 0 : 0	When applied for.
Special ...	£ 91 : 12 : 0	When received.
Donkey Boiler Fee ...	£ :	
Travelling Expenses (if any) ...	£ :	
<b>SUNDAY ATTENDANCES</b> ...	£ 7 : 7 : 0	
<b>Committee's Minute</b> ...		

*John Dykes & J.W. Leicester.*  
 Engineer Surveyors to Lloyd's Register of Shipping.  
 25 JAN 1924  
 LIVERPOOL

Assigned  
 Oil Engines  
 Boilers fitted for oil fuel 1.24 FP above 150° F  
 E-bobis Light.

