

# REPORT ON OIL ENGINE MACHINERY.

No. 11066

MON. 31 OCT. 1921

Date of writing Report 26<sup>th</sup> Oct 1921 When handed in at Local Office 29<sup>th</sup> Oct. 1921 Port of Southampton

No. in Survey held at Southampton & Comers. Date, First Survey 8<sup>th</sup> Sept. 1920 Last Survey 27<sup>th</sup> Oct. 1921

Reg. Book. on the Single Screw vessel PAILO Number of Visits 34

Tons Gross 308.63 Net 197.37

Master Built at Comers By whom built J.S. White & Co. Yard No. 1558 When built 1921

Engines made at Southampton By whom made Day, Summers & Co. L<sup>td</sup> Engine No. 4003 When made 1921

Donkey Boilers made at Annan By whom made Cochran & Co. L<sup>td</sup> Boiler No. 8587 When made 1920

Brake Horse Power 180 Owners British Oil Bunkering Co. L<sup>td</sup> Port belonging to London

Nom. Horse Power as per Rule 51.4 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes

OIL ENGINES, &c. Type of Engines Manly Semi-Diesel 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 250 lb. sq. in. No. of cylinders 4 No. of cranks 4 Diameter of cylinders 335 mm.

Length of stroke 350 mm. Revolutions per minute 300 Means of ignition Hot plate Kind of fuel used Gas-oil.

Is there a bearing between each crank yes Span of bearings (Page 92, Section 2, par. 7 of Rules) 350 mm.

Distance between centres of main bearings 600 mm. Is a flywheel fitted yes Diameter of crank shaft journals as per Rule Appraised

Diameter of crank pins 135 mm. Breadth of crank webs as per Rule Appraised Thickness of ditto as per Rule Appraised

Diameter of flywheel shaft as per Rule Appraised Diameter of tunnel shaft as per Rule 4.9" Diameter of thrust shaft as per Rule Appraised

Diameter of screw shaft as per Rule 5.6" Is the screw shaft fitted with a continuous liner the whole length of the stern tube No

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 No

Type of outer gland fitted to stern tube None Length of stern bush 1'-10 1/2" Diameter of propeller 4'-7"

Pitch of propeller 3'-8" No. of blades 4 state whether moveable No Total surface 8 1/2 square feet

Method of reversing Beel gear Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Thickness of cylinder liners yes

Are the cylinders fitted with safety valves No Means of lubrication Auto. meter pump 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 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 1 Diameter of ditto 105 mm. Stroke 60 mm.

Can one be overhauled while the other is at work yes No. of auxiliary pumps connected to the main bilge lines 1 How driven Motor

Sizes of pumps 4" x 6" No. and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps:—In engine room 1-2 1/2", 2-2"

and in holds, etc. 1-2" Cofferdam, 1-2" Fore Hold No. of ballast pumps None How driven yes Sizes of pumps yes

Is the ballast pump fitted with a direct suction from the engine room bilges yes State size 1-2 1/2" Is a separate auxiliary pump suction fitted in Engine Room and size yes

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 None Are all connections with the sea direct on the skin of the ship yes

Are they valves or cocks Boch 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 yes If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork yes

No. of main air compressors 1 No. of stages 1 Diameters 12" Stroke 12" Driven by Hand

No. of auxiliary air compressors 1 No. of stages 1 Diameters 12" Stroke 12" Driven by Hand

No. of small auxiliary air compressors 1 No. of stages 1 Diameters 3" Stroke 4" Driven by Hand

No. of scavenging air pumps 1 Diameter 109 mm. Stroke 110 mm. Driven by Hand

Diameter of auxiliary Diesel Engine crank shafts as per Rule 109 mm. as fitted 110 mm. Are the air compressors and their coolers made so as to be easy of access yes

IR RECEIVERS:—No. of high pressure air receivers 1 Internal diameter 12" Cubic capacity of each 1.5 cu. ft.

material Seamless, lap welded or riveted longitudinal joint Range of tensile strength yes

thickness working pressure by Rules No. of starting air receivers 4 Internal diameter 9 1/8"

Total cubic capacity 9.6 cu. ft. Material Steel Seamless, lap welded or riveted longitudinal joint Lap welded

Range of tensile strength thickness 5/16" Working pressure by rules Appraised Is each receiver, which can be isolated, fitted with a safety valve as per Rule No

Can the internal surfaces of the receivers be examined No What means are provided for cleaning their inner surfaces None

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

9000 554735-0006



IS A DONKEY BOILER FITTED?

yes

If so, is a report now forwarded?

yes

HYDRAULIC TESTS:—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS	22-9-20 4-4-21. 8-4-21	250 lb. <sup>0</sup>	500 lb. <sup>0</sup>	LLOYDS TEST 500 lb. A.H.B.	
" " COVERS	25-4-21. 4-5-21	250 lb. <sup>0</sup>	400 lb. <sup>0</sup>	LLOYDS TEST 400 lb. A.H.B.	
" " JACKETS	22-9-20 4-4-21. 8-4-21	"	50 lb. <sup>0</sup>	"	
" PISTON WATER PASSAGES		"	"	"	
MAIN COMPRESSORS—1st STAGE		"	"	"	
" 2nd "		"	"	"	
" 3rd "		"	"	"	
AIR RECEIVERS—STARTING	17-12-20	200 lb. <sup>0</sup>	500 lb. <sup>0</sup>	500 lb. L.R. 17-12-20.	Tested at maker's works
" INJECTION		"	"	"	
AIR PIPES		"	"	"	
FUEL PIPES		"	"	"	
FUEL PUMPS		"	"	"	
SILENCER	25-4-21. 3-5-21	"	20 lb. <sup>0</sup>	LLOYDS TEST 20 lb. A.H.B.	
" WATER JACKET	25-4-21. 3-5-21	"	20 lb. <sup>0</sup>	"	
SEPARATE FUEL TANKS	18-10-21	"	10 lb. <sup>0</sup>	A.H.B.	

PLANS: Are approved plans forwarded herewith for shafting *Approved. 10-5-20* Receivers *Approved. 9-3-21* Separate Tanks *Approved. 21-3-21*  
(If not, state date of approval)

SPARE GEAR 1 Cylinder head complete. 1 Injection nozzle with fuel non-return valve.  
1 Piston complete with rings. 6 extra piston rings. 2 Bottom-end bolts and nuts.  
2 Main bearing studs and nuts. 1 set of coupling bolts and nuts. 1 Fuel pump complete. 1 Full delivery pipe with connections from fuel pump to after cylinder. 1 Suction & 1 delivery valve for circulating pump. 1 Suction & 1 delivery valve for bilge pump.

The foregoing is a correct description,

*Campbell R. Day* Director, Manufacturer.

Dates of Survey while building	During progress of work in shops— 8.13.14.22.24 9 During erection on board vessel— 8 25 1.7.28 22.28 15.25.27 11.1920.5. 6. 7. 10. 1921.	Total No. of visits 34
Dates of Examination of principal parts—	Cylinders 9.1920.4.1921 Covers 4.5.1921 Pistons 3-5-21 Rods 24-9-20 Connecting rods	
Crank shaft 20-12-20 Thrust shaft 20-12-20 Tunnel shafts 8-11-20 Screw shaft 8-11-20 Propeller 7-6-21 Stern tube 25-5-21 Engine seatings 7-6-21		
Engines holding down bolts 28-7-21 Completion of pumping arrangements 27-9-21 Engines tried under working conditions 25-10-21		
Completion of fitting sea connections 1-6-21 Stern tube 4003 4003 10-12-20 10-12-20 1558 1558 8-11-20 8-11-20 A.H.B. A.H.B.		
Material of crank shaft Steel Identification Mark on Do. 4003 4003 10-12-20 10-12-20 1558 1558 8-11-20 8-11-20 A.H.B. A.H.B.		
Material of tunnel shafts Steel Identification Marks on Do. 4003 4003 10-12-20 10-12-20 1558 1558 8-11-20 8-11-20 A.H.B. A.H.B.		
Material of screw shafts Steel Identification Marks on Do. 4003 4003 10-12-20 10-12-20 1558 1558 8-11-20 8-11-20 A.H.B. A.H.B.		

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. "PERSE" & M.V. "PANDO".

General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery has been built under special Survey, and during erection on board the vessel.

The materials and workmanship are sound and good.

The requirements of section 49 of the rules have been complied with.

On trial the machinery proved satisfactory and is eligible in opinion to have notation + L.M.C. 10.21.

It is submitted that this vessel is eligible for

THE RECORD + L.M.C. - 10.21. (Annual Review) Oil Engines 2 S.C.S.A.

4 cy. 13 3/16", 13 3/4" 151 N.H.P. D.B. 100 lb. Day Summers & Co. Southampton.

The amount of Entry Fee ... £ 2 : 0 : 0 When applied for, 1921.

Special ... £ 15 : 0 : 0 When received, 1921.

Donkey Boiler Fee ... £ See Report.

Travelling Expenses (if any) £ 17 : 0 : 0

ELECTRIC LIGHT £ 5 : 0 : 0

Committee's Minute FRI. 11 NOV. 1921

Assigned + L.M.C. 10.21

oil engine

Certificate (if required) to be sent to the Surveyors requested not to write on or below the space for Committee's Minute.