

Rpt. 4b.

# REPORT ON OIL ENGINE MACHINERY.

No. 51028  
26 NOV 1930

Date of writing Report 20-11-30 When handed in at Local Office 26-11-30 Port of Glasgow  
No. in Survey held at GLASGOW Date, First Survey 9-30 Last Survey 18-11-1930  
Reg. Book. Number of Visits 4

on the Single Twin Triple Quaduple Screw vessel MY "POLARTANK." Tons { Gross 6366 Net 3872  
Built at GLASGOW By whom built BARCLAY CURLE & CO LD. Yard No. 645 When built 1930  
Engines made at GLASGOW. By whom made BARCLAY CURLE & CO LD Engine No 645 When made 1930  
Donkey Boilers made at GLASGOW. By whom made BARCLAY CURLE & CO LD Boiler No 645 When made 1930  
Horse Power 3150. Owners HVALFANGERSSELSKAPET - POLARIS A/S Port belonging to LARVIK.  
m. Horse Power as per Rule 686 Is Refrigerating Machinery fitted for cargo purposes NO Is Electric Light fitted YES  
made for which vessel is intended 687

ENGINES, &c.—Type of Engines BARCLAY-CURLE-DOXFORD 2 or 4 stroke cycle 2 Single or double acting SINGLE  
Maximum pressure in cylinders 45 KGS/cm<sup>2</sup> Diameter of cylinders 23.6" Length of stroke 91.4" No. of cylinders 4 No. of cranks 4  
Distance of bearings, adjacent to the Crank, measured from inner edge to inner edge 86.445" Is there a bearing between each crank YES  
Revolutions per minute 93. Flywheel dia. 89.75" Weight 6T.-1CWT. Means of ignition COMPRESSION Kind of fuel used DIESEL.  
Crank Shaft, dia. of journals as per Rule AS APP<sup>d</sup> CENTRE 18.7" Crank pin dia. 18.1" Crank Webs Mid. length breadth 25.6" Thickness parallel to axis  
as fitted 16.95" Sides 18.1" M. d. length thickness 10.2" shrunk Thickness around eyehole 7.6"  
Flywheel Shaft, diameter as per Rule SEE THROST Intermediate Shafts, diameter as per Rule 14.8" Thrust Shaft, diameter at collars as per Rule 16.95"  
as fitted 16.25" as fitted 15.2" as fitted 14" as fitted 14"  
Screw Shaft, diameter as per Rule 16.25" Is the shaft fitted with a continuous liner YES  
as fitted 18" as fitted 18" as fitted 18" as fitted 18"

Bronze Liners, thickness in way of bushes as per Rule 25/32" Thickness between bushes as per rule 19/32" Is the after end of the liner made watertight in the  
as fitted 7/8" as fitted 11/16" YES  
If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner YES  
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 Is an approved Oil Gland or other appliance fitted at the after end of the tube  
NO If so, state type YES Length of Bearing in Stern Bush next to and supporting propeller 5'-8"  
Propeller, dia. 17'-6" Pitch 14'-0" No. of blades 4 Material BRONZE whether Moveable NO Total Developed Surface 96 sq. feet  
Method of reversing Engines CAMS Is a governor or other arrangement fitted to prevent racing of the engine when disengaged YES Means of lubrication  
FORCED Thickness of cylinder liners 1" 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 syphoned back to the engine UP FUNNEL.

Cooling Water Pumps, No. 1. M.E. 1. STAND-BY. Is the sea suction provided with an efficient strainer which can be cleared within the vessel NO.  
Bilge Pumps worked from the Main Engines, No. 1. Diameter 4" Stroke 24" Can one be overhauled while the other is at work YES  
Pumps connected to the Main Bilge Line { No. and Size 3 - (4"x24") (9 1/2"x8 1/2"x8") (11"x13"x24")  
How driven ME STEAM STEAM.  
Ballast Pumps, No. and size 1 @ (11"x13"x24") Lubricating Oil Pumps, including Spare Pump, No. and size 2 - (4"x24") (7"x8"x18")  
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 Machinery Spaces 3 @ 3 1/2" 1 @ 2 1/2"  
In Holds, &c. COFFERDAM - 3 1/2"

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 5 1/2"  
Are all the Bilge Suction pipes in Holds and Trunnel Well fitted with strum-bones YES Are the Bilge Suctions in the Machinery Spaces  
led 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 BOTH  
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  
What pipes pass through the bunkers How are they protected  
What pipes pass through the deep tanks Have they been tested as per Rule YES

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 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  
Main Air Compressors, No. 1 No. of stages 3 Diameters 1 1/2" x 9 1/4" x 2 7/8" Stroke 4" Driven by STEAM.  
Auxiliary Air Compressors, No. 1 No. of stages 3 Diameters 8 1/2" x 6 3/4" x 2 1/4" Stroke 6" Driven by STEAM.  
Small Auxiliary Air Compressors, No. 1 No. of stages 1 Diameters - Stroke - Driven by -  
Scavenging Air Pumps, No. 1 Diameter 77.15" Stroke 24" Driven by M.E.

Auxiliary Engines crank shafts, diameter as per Rule - 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. 1 Cubic capacity of each 220 cf. Internal diameter 4'-1 1/2" thickness 1 1/8"  
Seamless, lap welded or riveted longitudinal joint - Material STEEL Range of tensile strength 28/32 TONS Working pressure by Rules 600 LBS.  
Starting Air Receivers, No. 2 Total cubic capacity 220 cf. Internal diameter 4'-1 1/2" thickness 1 1/8"  
Seamless, lap welded or riveted longitudinal joint RIVETED Material STEEL Range of tensile strength 28/32 TONS Working pressure by Rules 600 LBS.



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IS A DONKEY BOILER FITTED? *yes (2)* If so, is a report now forwarded? *yes*  
 PLANS. Are approved plans forwarded herewith for Shafting *16/8/30 (dup 639)* Receivers *yes* Separate Tanks *yes*  
 Donkey Boilers *yes* General Pumping Arrangements *22/3/30* Oil Fuel Burning Arrangements *5/4/30*  
 SPARE GEAR *All as per Rule Requirements*

The foregoing is a correct description,  
 FOR BARCLAY, CURLE & CO., LTD.

*John Ryan Dor*  
 GENERAL MANAGER ENGINE WORKS  
 Manufacturer.

Dates of Survey while building  
 During progress of work in shops-- 1930 Apr 9 11 16 20 23 June 23 25 27 July 2 7 14 16 30 Aug 6 7 14 13 16 18 20 22 25 27  
 During erection on board vessel-- Sep 3 8 10 12 16 19 23 24 26 Oct 8 15 16 24 27 31 Nov 12 18  
 Total No. of visits *41*

Dates of Examination of principal parts—Cylinders *23-6-30* Covers *27-6-30* Pistons *13-8-30* Rods *20-8-30* Connecting rods *7-7-30*  
 Crank shaft *6-8-30* Flywheel shaft *✓* Thrust shaft *13-8-30* Intermediate shafts *13-8-30* Tube shaft *✓*  
 Screw shaft *26-9-30* Propeller *8-9-30* Stern tube *26-9-30* Engine seatings *24-9-30* Engines holding down bolts *24-10-30*  
 Completion of fitting sea connections *24-9-30* Completion of pumping arrangements *12-11-30* Engines tried under working conditions *18-11-30*  
 Crank shaft, Material *Steel* Identification Mark *2984 GOC* Flywheel shaft, Material *✓* Identification Mark *✓*  
 Thrust shaft, Material *Steel* Identification Mark *3635 AF* Intermediate shafts, Material *Steel* Identification Mark *3635 AF*  
 Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *Steel* Identification Mark *3635 AF*

Is the flash point of the oil to be used over 150° F. *yes*  
 Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with *yes*  
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *✓* If so, have the requirements of the Rules been complied with *✓*  
 Is this machinery duplicate of a previous case *yes* If so, state name of vessel *Alcides - Gls Rpt 50775*

General Remarks (State quality of workmanship, opinions as to class, &c.)  
*This machinery has been built under special survey, to approved plans in accordance with the Society's Rules. Materials and workmanship are good. It has been properly fitted on board the vessel, tried under working conditions and found satisfactory. It is eligible to be classed with record of +LMC 11.30. oil engines - C.L. 2.D.B.*

It is submitted that this vessel is eligible for THE RECORD. +LMC 11.30 C-L  
 Oil Engines 2.SCSA. 4CY 23<sup>5</sup>/<sub>8</sub> - 9<sup>5</sup>/<sub>16</sub>  
 2DB 120<sup>6</sup>/<sub>16</sub> NHP 687.

*J. Sutherland*  
 27/11/30

*H. Sutherland*  
 Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ *6* : : When applied for, 19.11.30.  
 Special ... £ *109-6-0* : :  
 Donkey Boiler Fee ... £ *24-10-0* : :  
 Travelling Expenses (if any) £ *4-4-0* : :  
 Committee's Minute *GLASGOW 25 NOV 1930*  
 Assigned *+LMC. 11.30*



*Q.L.*  
 25/11/30

Certificate (if required) to be sent to

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