

Rpt. 4b

# REPORT ON OIL ENGINE MACHINERY.

No. 28918  
23 SEP 1924

Received at London Office

Date of writing Report 19 When handed in at Local Office 27 SEP 1924 Port of SUNDERLAND

No. in Survey held at SUNDERLAND Date, First Survey 24 April Last Survey 19 Sep 1924  
Reg. Book. Number of Visits 28

on the <sup>Single</sup> ~~Four~~ <sub>Triple</sub> Screw vessels "VINE MOOR" Tons <sup>Gross</sup> 4369 <sup>Net</sup> 2646

Master Built at Sunderland By whom built Messrs W. Dwyer Yard No. 582 When built 1924

Engines made at Sunderland By whom made Messrs W. Dwyer & Co Engine No. 582 When made 1924

Donkey Boilers made at Annan By whom made Cochran & Co Boiler No. 9353 When made 1924

Brake Horse Power 1760 Owners Moor Line, Ltd Port belonging to London

Nom. Horse Power as per Rule 312 <sup>335</sup> Is Refrigerating Machinery fitted for cargo purposes NO Is Electric Light fitted YES

**OIL ENGINES, &c.**—Type of Engines Dwyer opposed Piston 2 or 4 stroke cycle 2 Single or double acting single

Maximum pressure in cylinders 568 No. of cylinders 3 No. of cranks, 3, 3 then Diameter of cylinders 21 7/8" 540 mm

Length of stroke 2 x 1080 mm <sup>85"</sup> Revolutions per minute 90 Means of ignition Jump of compression Kind of fuel used oil / fuel F.P. atom 1509

Is there a bearing between each crank YES Span of bearings (Page 92, Section 2, par. 7 of Rules) 980 mm

Distance between centres of main bearings 1240 mm <sup>40 1/2"</sup> Is a flywheel fitted YES Diameter of crank shaft journals as per Rule 373 mm as fitted 400 mm

Diameter of crank pins 430 mm Breadth of crank webs as per Rule shrunk as fitted 610 mm thickness of ditto as per Rule shrunk as fitted 245 mm

Diameter of flywheel shaft as per Rule 373 mm Diameter of tunnel shaft as per Rule 314 mm Diameter of thrust shaft as per Rule 373 mm as fitted 400 mm

Diameter of screw shaft as per Rule 340 mm Is the screw shaft fitted with a continuous liner the whole length of the stern tube YES as fitted 350 mm

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

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

If two liners are fitted, is the shaft lapped or protected between the liners If without liners, is the shaft arranged to run in oil

Type of outer gland fitted to stern tube Length of stern bush 5'-10" Diameter of propeller 15'-6"

Pitch of propeller 13'-9" No. of blades 4 state whether moveable NO Total surface 769 square feet

Method of reversing Compound air Is a governor or other arrangement fitted to prevent racing of the engine when declutched YES Thickness of cylinder liners 2" <sup>50 mm</sup>

Are the cylinders fitted with safety valves YES Means of lubrication Fuel 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 Funnel

within the vessel <sup>not thro. jacket</sup> NO. Sea water No. of bilge pumps fitted to the main engines none Diameter of ditto Stroke

Can one be overhauled while the other is at work No. of auxiliary pumps connected to the main bilge lines 3 How driven Steam, direct acting

Sizes of pumps 2 @ 13 x 10 1/2 x 24 = 200 T.P.H. No. and sizes of suction connected to both main bilge pumps and auxiliary bilge pumps:—In engine room 4 @ 2 1/2" 1 @ 4 1/2" and in holds, etc. 2 @ 1 1/2" 2 @ 3" 2 @ 3" 2 @ 3" 2 @ 3" 2 @ 3" 2 @ 3" 2 @ 3" 2 @ 3" 2 @ 3" No. of ballast pumps 1 How driven Steam, direct acting Sizes of pumps 13 x 10 1/2 x 24

Is the ballast pump fitted with a direct suction from the engine room bilges YES State size 8" Is a separate auxiliary pump suction fitted in Engine Room and size YES 4 1/2" Are all the bilge suction pipes fitted with roses Are the roses in Engine Room always accessible

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 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 Upper Platform of 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 NONE No. of stages Diameters Stroke Driven by

No. of auxiliary air compressors 2 No. of stages 3 Diameters 1 @ 11 1/2 x 9 7/8 x 3 1/2 Stroke 7" Driven by Steam

No. of small auxiliary air compressors No. of stages Diameters Stroke Driven by

No. of scavenging air pumps 1 Diameter 1540 mm Stroke 610 mm Driven by Pump driven

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

**AIR RECEIVERS:**—No. of high pressure air receivers Internal diameter Cubic capacity of each

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

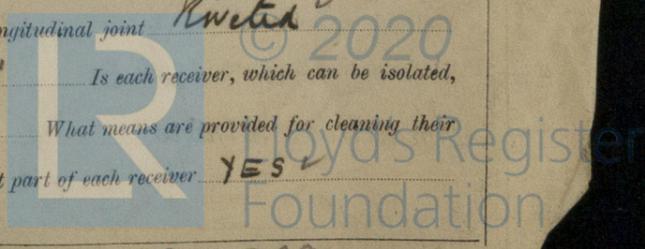
thickness working pressure by Rules No. of starting air receivers 2 Internal diameter 3'-6"

Total cubic capacity 220 cu. ft. Material Steel plate Seamless, lap welded or riveted longitudinal joint Riveted

Range of tensile strength 28-32 thickness 1 1/4" Working pressure by rules 610 lbs. 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 Main hole 16" x 12" Is there a drain arrangement fitted at the lowest part of each receiver YES

1 m. 41 E.



W92-0069

IS A DONKEY BOILER FITTED? **YES, TWO.**

If so, is a report now forwarded? **YES**

**HYDRAULIC TESTS:—**

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS .....	23-6-24 to 17-7-24	—	30 lbs	—	—
"   "   COVERS .....	✓	✓	✓	—	—
"   "   JACKETS.....	23-6-24 to 17-7-24	4 lbs	30 lbs	NO 582 LLOYD'S TEST 30 lbs G.A.H.	—
"   "   HEADS.....	29-7-24 to 31-7-24	30 lbs	100 lbs	582 LLOYD'S TEST 100 lbs G.A.H.	—
"   "   PISTON WATER PASSAGES.....	—	—	—	—	—
MAIN COMPRESSORS—1st STAGE.....	NONE	—	—	—	—
"   "   2nd .....	✓	✓	✓	—	—
"   "   3rd .....	✓	✓	✓	—	—
AIR RECEIVERS—STARTING .....	18-7-24	600 lbs	800 lbs	582 LLOYD'S TEST 800 lbs G.A.H.	—
"   "   INJECTION .....	✓	✓	✓	—	—
AIR PIPES .....	15-8-24 to 15-9-24	600 lbs	1000 lbs	582 LLOYD'S TEST 1000 lbs G.A.H.	—
FUEL PIPES .....	23-7-24	8000 lb	12000 lb	582 LLOYD'S TEST 12000 lbs G.A.H.	—
FUEL PUMPS .....	19-9-24	8000 lbs	11,000	582 LLOYD'S TEST 11000 lbs G.A.H.	—
SILENCER .....	Lagged with asbestos, open to atmosphere				
"   "   WATER JACKET .....	NONE	✓	✓	—	—
SEPARATE FUEL TANKS .....	28-7-24 to 31-7-24	NIL	10 lbs	582 LLOYD'S TEST 10 lbs G.A.H.	—

PLANS. Are approved plans forwarded herewith for shafting **DUP OF 579/80/81** Receivers **DUP OF 578/9/80/81** Separate Tanks **DUP OF 579/80/81**

SPARE GEAR: main Piston complete with skirt & rings, 2 Piston rings, 2 top end + 2 bottom end center con. rod bolts & nuts, 2 side cover end bolts & nuts, 2 side con. rod bottom end bolts & nuts, 2 side rod bolts & nuts, 2 main bearing studs & nuts, 1 set crank shaft connecting bolts, 1 set tunnel shaft connecting bolts, 1 fuel wheel for cam shaft drive, 1 spur wheel for cam shaft drive, 4 fuel valves complete, 1 starting valve + 1 relief valve complete, delivery & suction valves for scavenge pump, 1 fuel pump body complete, 1 propeller shaft & propeller, 1 straight length shafting for crank shaft, assorted bolts & nuts, brass & iron various sizes.

**WILLIAM DOXFORD & SONS Limited**  
The foregoing is a correct description.

*A. Newell* Secretary Manufacturer.

Dates of Survey while building: During progress of work in shops - 1924 Apr. 24, 30, May 1, 22, 27, June 11, 13, 18, 23, July 3, 15, 17, 18, 23, 28, 29, 31, Aug 12, 14, 15, 18, 21, 27, Sep. 1, 8, 15, 18, 19.  
During erection on board vessel - 1, 8, 15, 18, 19.  
Total No. of visits 28

Dates of Examination of principal parts—Cylinders 17-7-24 Covers ✓ Pistons 28-7-24 Rods 15-7-24 Connecting rods 18-8-24  
Crank shaft 31-5-24, 10-7-24 Thrust shaft 18-8-24 Tunnel shafts 18-8-24 Screw shaft 12-9-24 Propeller 18-7-24 Stern tube 17-7-24 Engine seatings 8-9-24  
Engines holding down bolts 8-9-24 Completion of pumping arrangements 1-9-24 Engines tried under working conditions 19-9-24  
Completion of fitting sea connections 23-7-24 Stern tube 23-7-24 Screw shaft and propeller 8-9-24  
Material of crank shaft J. Steel Identification Mark on Do. 2058 J.S.C. Material of thrust shaft J. Steel Identification Mark on Do. 582 G.A.H.  
Material of tunnel shafts J. Steel Identification Marks on Do. 582 G.A.H. Material of screw shafts J. Steel Identification Marks on Do. 3526 L.C.D.

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 **"Silvercedar"**

General Remarks (State quality of workmanship, opinions as to class, &c.)  
The machinery of this vessel has been built under special survey, the materials and workmanship are sound and good, the main & auxiliary engines have been tried under working conditions with satisfactory results. The machinery under the vessel eligible in my opinion to have record of -1-L.M.C. 9.24 OIL ENGINE.

It is submitted that this vessel is eligible for **THE RECORD. + L.M.C. 9.24. CL.**  
Oil Engines, 25C.S.A. 417.N.H.P.  
3 Cy. 21 1/4" - 85" 20B.120 lb.

The amount of Entry Fee ... £ 5 :  
Special ... £ 71 : 19  
Donkey Boiler Fee ... £ :  
Travelling Expenses (if any) £ :  
When applied for. 27 SEP 1924  
When received. 24

*J.W.D.*  
30/9/24  
L.S. Hulse  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI. 10 OCT 1924**  
Assigned + L.M.C. 9.24. C.L.  
oil engines



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