

## REPORT ON OIL ENGINE MACHINERY.

No. 29636

23 MAY 1928

Date of writing Report

19

When handed in at Local Office

22 MAY 1928

Port of *Sunderland*No. in Survey held at  
Reg. Book.Date, First Survey *3rd Oct. 1927* Last Survey *18 May 1928*  
Number of Visits *54*on the *Single* *Triple* Screw vessels *M. V. "INNESMOOR"*Tons *Gross 4392*  
*Net 2649*Built at *Sunderland* By whom built *William Doxford & Co. Ltd.* Yard No. *592* When built *1928*Engines made at *Do* By whom made *Do* Engine No. *592* When made *1928*Donkey Boilers made at *Amman* By whom made *Boehman & Co* Boiler No. When madeBrake Horse Power *401* Owners *Moore Line* Port belonging to *London*Nom. Horse Power as per Rule *417* Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *Yes*OIL ENGINES, &c.—Type of Engines *Infined. Diesel Injection opposed 2 or 4 stroke cycle 2* Single or double acting *SINGLE*Maximum pressure in cylinders *568 LBS* No. of cylinders *3* Diameter of cylinders *5 1/2" = 2 1/4"* No. of cranks *3* Stroke *2 x 1080* Length of stroke *2 x 1080*Span of bearings, adjacent to the Crank, measured from inner edge to inner edge *980 1/2"* Is there a bearing between each crank *YES*Revolutions per minute *90* Flywheel dia. *8'-8"* Weight *10 TONS 18 CWT* Means of ignition *TEMPERATURE OF COMPRESSION* Kind of fuel used *CRUDE OIL F.P. OVER 150°*Crank Shaft, dia. of journals *as per Rule APPROVED* Crank pin dia. *430 1/2"* Crank Webs *Mid. length breadth 610 1/2"* Thickness parallel to axis *245 1/2"*Flywheel Shafts, diameter *as per Rule APPROVED* Intermediate Shafts, diameter *as per Rule APPROVED* Thrust Shaft, diameter at collars *as per Rule APPROVED*Tube Shafts, diameter *as per Rule* Screw Shaft, diameter *as per Rule APPROVED* Is the *tube* shaft fitted with a continuous liner *YES*Bronze Liners, thickness in way of bushes *as per Rule APPROVED* Thickness between bushes *as per rule* Is the after end of the liner made watertight in thepropeller boss *YES* If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner

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 Is an approved Oil Gland or other appliance fitted at the after

end of the tube shaft Length of Bearing in Stern Bush next to and supporting propeller *5'-6"*Propeller, dia. *15'-6"* Pitch *13'-9"* No. of blades *4* Material *BRONZE* whether Moveable *NO* Total Developed Surface *76* sq. feetMethod of reversing Engines *COMPRESSED AIR* Is a governor or other arrangement fitted to prevent racing of the engine *when detached YES* Means of lubrication*FORCED* Thickness of cylinder liners *7/8" REINFORCED* Are the cylinders fitted with safety valves *YES* Are the exhaust pipes and silencers water cooled or lagged withnon-conducting material *LACED* If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine *FUNNEL EXHAUST*Cooling Water Pumps, No. *2, 1 main engine 1 separate cent.* Is the sea suction provided with an efficient strainer which can be cleared within the vessel *FRESH WATER*

Bilge Pumps fitted to the Main Engines, No. Diameter Stroke Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line No. and Size *THREE 1 @ 40 TONS BILGE 1 @ 40 TONS GEN SER 1 @ 200 TONS BALLAST*How driven *STEAM* *STEAM* *STEAM* *ENGINE DRIVEN SINGLE ACTION*Ballast Pumps, No. and size *ONE @ 200 TONS PR HR.* Lubricating Oil Pumps, including Spare Pump, No. and size *1 STEAM TO DIRECT TO*Are two independent means arranged for circulating water through the Oil Cooler *NO OIL COOLER* Suctions, connected to both Main Bilge Pumps and Auxiliary BilgePumps, No. and size:—In Engine and Boiler Room *4 @ 2 1/2"*In Holds, &c. *2 @ 3 1/2" No 1, 2 @ 3 1/2" No 2, 2 @ 5" DEEP TANK, 2 @ 3" No 3, 1 @ 3 1/2" No 4, 1 @ 3" TUNNEL WELL*Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size *1 @ 8" TO BALLAST PUMP, 1 @ 4 1/2" TO GENERAL SERVICE*Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes *YES* Are the Bilge Suctions in the Machinery Spaceled 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 *ABOVE*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 *NONE* How are they protectedWhat pipes pass through the deep tanks *"* Have they been tested as per Rule *See Ball's 27/1/28 with GLENMOOR*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 *ENGINE ROOM GRATING*

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

Main Air Compressors, No. No. of stages Diameters Stroke Driven by

Auxiliary Air Compressors, No. No. of stages *3* Diameters *1 1/2", 9/8", 3/8"* Stroke *7"* Driven by *STEAM CYLINDERS 1 1/2" x 7"*Small Auxiliary Air Compressors, No. No. of stages *3* Diameters Stroke Driven byScavenging Air Pumps, No. *1 DOUBLE ACTING* Diameter *1540 1/2"* Stroke *610 1/2"* Driven by *MAIN ENGINE*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 *MANHOLE DOOR 16" x 12"*Is there a drain arrangement fitted at the lowest part of each receiver *YES*High Pressure Air Receivers, No. *NONE* Cubic capacity of each Internal diameter thickness

Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules

Starting Air Receivers, No. *TWO* Total cubic capacity *220 CUBIC FT.* Internal diameter *3'-6"* thickness *1"*Seamless, lap welded or riveted longitudinal joint *RIVETED* Material *W. STEEL* Range of tensile strength *28 TONS* Working pressure by Rules *610 LBS*

009702-009710-003273

Lloyd's Register  
Foundation

IS A DONKEY BOILER FITTED?  
HYDRAULIC TESTS:-

If so, is a report now forwarded?

Rpt. 5

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS	Plain cylindrical form soundness ascertained by inspection				
COVERS	None				
JACKETS	5/1/28, 12/1/28, 9/1/28	4 lbs.	30 lbs.	J.H.	
PISTON WATER PASSAGES	17/2/28 & 6/1/28	30 lbs.	100 lbs.	J.H.	
MAIN COMPRESSORS—1st STAGE	None				
2nd "					
3rd "					
AIR RECEIVERS—STARTING	29/3/28	600 lbs.	800 lbs.	4738 J.H.	
INJECTION	None				
AIR PIPES	28/2/28 & 9/5/28	600 lbs.	1000 lbs.	J.H.	
FUEL PIPES	29/2/28	8000 lbs.	12000 lbs.	J.H.	
FUEL PUMPS	29/2/28	8000 lbs.	12000 lbs.	J.H.	
SILENCER	Lagged with asbestos & open to atmosphere				
WATER JACKET	None				
SEPARATE FUEL TANKS	4/4/28, 16/4/28	Nil	10 lbs.	4759, 4760 J.H.	

PLANS. Are approved plans forwarded herewith for Shafting (If not, state date of approval) *Yes* Receivers *Yes* Separate Tanks *No* Duplicate *No* M.S. VINE MOOR.

Donkey Boilers *Yes* General Pumping Arrangements *Yes* Oil Fuel Burning Arrangements *No* Do.

SPARE GEAR 1 1/2 cylinder liner, 1 main piston with rings complete, 1 piston skirt, 1 upper & 1 lower piston rod, 6 piston rings, 2 Centre Connecting Rod top end & 2 ditto bottom end bolts & nuts, 2 side x head bolts & nuts, 2 side connecting Rod bottom end bolts & nuts, 2 side Rod bolts & nuts, 2 main bearing studs & nuts, 1 set coupling bolts for crankshaft, 1 set ditto tunnel shaft, 1 spur & 1 bevel wheel for crankshaft drive, 4 fuel valves with casings complete, 1 starting valve, 1 relief valve, 2 scavange pump motion & delivery valves, 1 fuel pump bolts complete with 3 spare parts, 1 Propeller shaft, 1 C.T. Propeller, 1 spare straight length of crankshaft, 1 spare spring, 1 spare length of fuel pipe with couplings, a quantity of assorted bolts & nuts & ring of various sizes. The foregoing is a correct description.

Manufacturer.

Dates of Survey while building  
During progress of work in shops-- 1927. Oct. 3, 12, 26, 28, 31. Nov. 10, 16, 18, 21, 25, 29. Dec. 1, 8, 14, 19, 21. 28. Jan. 5, 6, 9, 12, 16, 19, 31. Feb. 6, 9, 16, 17, 21, 23, 29. Mar. 2, 7, 8, 15, 20, 26, 27, 29. Apr. 4, 11, 16, 19, 20, 23, 25, 30. May 9, 10, 11, 15, 16, 18.

Dates of Examination of principal parts—Cylinders 19/1/28 Covers None Pistons 9/2/28 Rods 31/10/27 Connecting rods 18/11/27 Crank shaft 20/3/28 Flywheel shaft 14/12/27 Thrust shaft 14/12/27 Intermediate shafts 8/12/27 Tube shaft 27/3/28 Propeller 21/2/28 Stern tube 8/3/28 Engine seatings 25/4/28 Engines holding down bolts 30/4/28 Completion of fitting sea connections 4/4/28 Completion of pumping arrangements 18/5/28 Engines tried under working conditions 18/5/28 Crank shaft, Material I. Steel Identification Mark 5565 D Flywheel shaft, Material I. STEEL Identification Mark 386 Thrust shaft, Material I. STEEL Identification Mark 386 Intermediate shafts, Material I. STEEL Identification Marks 538, 489, 570 Tube shaft, Material I. STEEL Identification Mark 536, 732, 536 Screw shaft, Material I. STEEL Identification Mark 5565, D, 424 SPAN

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. GLENMOOR.*

General Remarks (State quality of workmanship, opinions as to class, &c.) *This machinery has been built under Special Survey & the workmanship & materials are good. On completion the machinery was tried at sea under full working conditions, with satisfactory results. The machinery throughout is now in a good & efficient condition & eligible for my opinion to have the notation F.L.M.C. 5-2 & T.S. C.L. 5-28 marked in the Register's Register Book. The two donkey boilers are also fitted to burn oil fuel F. Palm 150° F & the requirements of Section 35 of the Rules fully complied with.*

The amount of Entry Fee ... £ 5-0-0 When applied for, 19 May 1928  
Special ... £ 87-11-0  
Donkey Boiler Fee ... £ 4-4-0 When received, 23.5.28  
Travelling Expenses (if any) £ :

Committee's Minute *FRI. 25 MAY 1928*  
Assigned *+ Lmc 5.28*  
Oil Engines *2 DTB-120lb*  
CERTIFICATE WRITTEN

