

REPORT ON OIL ENGINE MACHINERY.

No. 29636
23 MAY 1928

Received at London Office

Date of writing Report

When handed in at Local Office

22 MAY 1928 Port of *Sunderland*

No. in Survey held at
Reg. Book.

Sunderland

Date, First Survey *3rd Oct. 1927* Last Survey *18 May 1928*
Number of Visits *54*

on the *Single* } Screw vessels *M.V. "INNESMOOR"*
Triple }

Tons } Gross *4292*
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 made

Brake 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. Wireless 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 1/4 = 2 1/4* No. of cranks *3* Length of stroke *2 x 1080 = 85" TOTAL*

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge *980"* Is there a bearing between each crank *YES*

Revolutions per minute *90* Flywheel dia. *8'-8"* Weight *10 TONS* Means of ignition *TEMPERATURE OF COMPRESSION* Kind of fuel used *CRUISE OIL F.P. OVER 150*

Crank Shaft, dia. of journals *as per Rule APPROVED* Crank pin dia. *430"* Crank Webs *Mid. length breadth 610"* Thickness parallel to axis *245"*

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 APPROVED* Screw Shaft, diameter *as per Rule APPROVED* Is the 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 the

propeller 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. feet

Method 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 *1/8 REINFORCED* Are the cylinders fitted with safety valves *YES* Are the exhaust pipes and silencers water cooled or lagged with

non-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* 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 BENSER, 1 @ 200 TONS BALLAST* How driven *STEAM*

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 Bilge

Pumps, 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 Space

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 *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 protected

What pipes pass through the deep tanks *Bilge Pipes* Have they been tested as per Rule *See Ball's 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 CABIN*

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 3/4 x 7"*

Small Auxiliary Air Compressors, No. No. of stages *3* Diameters Stroke Driven by

Scavenging Air Pumps, No. *1 DOUBLE ACTING* Diameter *1540"* Stroke *610"* 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*

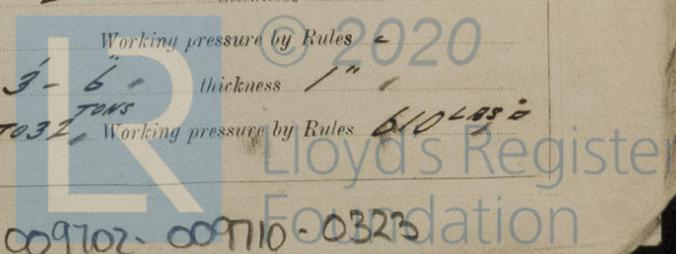
Is there a drain arrangement fitted at the lowest part of each receiver *YES*

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 CUB. FT.* Internal diameter *3'-6"* thickness *1"*

Seamless, lap welded or riveted longitudinal joint *RIVETTED* Material *W. STEEL* Range of tensile strength *28 TONS* Working pressure by Rules *610 LBS*



009702-009710-003275

IS A DONKEY BOILER FITTED? *Yes*
 HYDRAULIC TESTS:—

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

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

PLANS. Are approved plans forwarded herewith for Shafting *Yes* Receivers *Yes* Separate Tanks *No* ^{Duplicate} No. *M.S. VINE MOOR. 1*
 Donkey Boilers *Yes* General Pumping Arrangements *Yes* Oil Fuel Burning Arrangements *No* ^{To}

SPARE GEAR 1 *S* flywheel liner, 1 main piston with rings complete, 1 piston skirt, 1 cup, 1 lower piston rod, 1 piston ring, 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 carriers complete, 1 starting valve, 1 relief valve, 2 scavange pump suction & delivery valves, 1 fuel pump bolts complete with 3 spare nuts, 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, 1 suction & 1 delivery valve for each scavanging pump.
 The foregoing is a correct description.
 WILLIAM DOXFORD & SONS, LONDON
 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, 14, 19, 21. 28. Jan. 5, 6, 9, 12, 16, 19, 31. Feb. 6, 9, 16, 17, 21, 22.
	During erection on board vessel--	28, 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.
	Total No. of visits	54

Dates of Examination of principal parts—Cylinders	19/1/28	Covers	<i>None</i>	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	
Screw 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>I. Steel</i>	Identification Mark	<i>5565 D</i>	Flywheel shaft, Material	<i>I. STEEL</i>	Identification Mark	<i>386</i>		
Thrust shaft, Material	<i>I. STEEL</i>	Identification Mark	<i>386</i>	Intermediate shafts, Material	<i>I. STEEL</i>	Identification Marks	<i>538, 489, 500, 564, 732, 536, 570</i>		
Tube shaft, Material	<i>I. STEEL</i>	Identification Mark	<i>386</i>	Screw shaft, Material	<i>I. STEEL</i>	Identification Mark	<i>5565, D WARKIN, 5365, D, 424 SPAN</i>		

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 in my opinion to have the notation S.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,	
Special	£ 87-11-0	19 May 1928	
Donkey Boiler Fee	£ 4-4-0	When received,	
Travelling Expenses (if any)	£ :	23.5.28	

W. Robertson
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI. 25 MAY 1928**
 Assigned *Thome 5.28*
 Oil Engines *2 DTB-12016*

