

REPORT ON OIL ENGINE MACHINERY.

No. 12103
MAR -8 1938

Received at London Office

Date of writing Report 19... When handed in at Local Office 7. 3. 1938 Port of Belfast

No. in Survey held at Belfast Date, First Survey 3rd Dec, 1936 Last Survey 3/3/38 19
Reg. Book. Number of Visits 169

30386 on the Single }
Twin } Screw vessel TWIN "MUNSTER"
Triple }
Quadruple }

Built at Belfast By whom built Harland & Wolff Ltd Yard No. 996 When built 1938

Engines made at Belfast By whom made Harland & Wolff Ltd Engine No. 996 When made 1938

Donkey Boilers made at Belfast By whom made Harland & Wolff Ltd Boiler No. 996 When made 1938

Brake Horse Power Owners British & Irish Steam Pht Co 1936 Port belonging to Liverpool

Nom. Horse Power as per Rule 1347 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended Irish Channel Service

L ENGINES, &c. Type of Engines Harland - B.W. airless injection 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 700 lbs Diameter of cylinders 500 7/16 Length of stroke 900 7/16 No. of cylinders 10 No. of cranks 10

Position of bearings, adjacent to the Crank, measured from inner edge to inner edge 704 7/16 Is there a bearing between each crank Yes

Revolutions per minute 120 Flywheel dia. 1654 7/16 Weight 1000 kgs Means of ignition Compression Kind of fuel used Diesel Oil

Crank Shaft, dia. of journals as per Rule 354 as fitted Crank pin dia. 354 Crank Webs Mid. length breadth 572 7/16 Thickness parallel to axis 220 7/16
as fitted 354 Mid. length thickness 220 7/16 shrunk Thickness around eye-hole 242.5 7/16

Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule as fitted Thrust Shaft, diameter at collars as per Rule as fitted

Stern Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as fitted Is the tube screw shaft fitted with a continuous liner No

Bronze Liners, thickness in way of bushes as per Rule as fitted Thickness between bushes as per rule as fitted 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 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 Is an approved Oil Gland or other appliance fitted at the after end of the tube Yes

If so, state type Cedarvale Patent Length of Bearing in Stern Bush next to and supporting propeller 4-9"

Propeller, dia. 12-3" Pitch 18-3" No. of blades 3 Material Babbal metal whether Moveable or Solid Total Developed Surface 44.5 sq. feet

Method of reversing Engines Hand gear Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication forced

Thickness of cylinder liners 36 7/16 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 Yes

Cooling Water Pumps, No. Two Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Bilge Pumps worked from the Main Engines, No. None Diameter Stroke Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line No. and Size Two @ 60 tons/hr One @ 100 tons/hr How driven Electrically

Ballast Pumps, No. and size One @ 100 tons/hr Lubricating Oil Pumps, including Spare Pump, No. and size Two @ 170 tons/hr 1 working 1 spare

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 Motor room 4 @ 2 1/2" Aux eng room 4 @ 2 1/2" In Pump Room 1-2 1/2"

in Holds, &c. No. 1 & 2 holds 1-2 1/2 P.S. In tunnel 1-2 1/2 P.S. Buoyancy Space 2-2 1/2 P.S. Mid & aft tunnels 1-2 1/2 P.S. Tunnel Well

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size Motor room 1-5 P.S. 1-4 S. Aux ER 1-4 P.S.

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces

and 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 Yes

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 Have they been tested as per Rule

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 C. Deck

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. 2 No. of stages 2 Diameters 240 7/16 & 210 7/16 Stroke 160 7/16 Driven by El Motor

Auxiliary Air Compressors, No. 2 No. of stages 2 Diameters 3 1/4 & 1 1/4 Stroke 3 Driven by El Motor

Small Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 3 1/4 & 1 1/4 Stroke 3 Driven by Main eng.

Scavenging Air Pumps, No. 3 Capacity 168 7/16 cu. ft./min. ca. Diameter at 1.2 atmos abs. Stroke at 661 rpm: No. 3 Position - Aux ER

Auxiliary Engines crank shafts, diameter as per Rule as approved 17-10-36 as fitted 180 7/16 Position - Aux ER

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule Refusable plugs & safety valves on A.C. discharge line

Can the internal surfaces of the receivers be examined and cleaned Yes Manhole Is a drain fitted at the lowest part of each receiver Yes

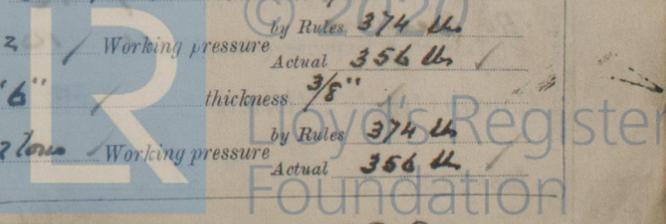
Starting High Pressure Air Receivers, No. 2 Cubic capacity of each 538 cu. ft. each Internal diameter 6'-0 3/8" thickness 1 1/2"

Seamless, lap welded or riveted longitudinal joint Yes Material Steel Range of tensile strength 28/32 Working pressure Actual 356 lb

Emergency Starting Air Receivers, No. 1 Total cubic capacity 150 litres Internal diameter 1'6" thickness 3/8"

Seamless, lap welded or riveted longitudinal joint Yes Material Steel Range of tensile strength 28/32 Working pressure Actual 356 lb

10334



W456-0090

IS A DONKEY BOILER FITTED? *Yes* / If so, is a report now forwarded? *Yes* /
 Is the donkey boiler intended to be used for domestic purposes only? *Yes* /
 PLANS. Are approved plans forwarded herewith for Shafting *17-10-36* ²¹⁻¹²⁻³⁶ ₄₋₁₋₃₇ Receivers *5-11-36* Separate Tanks *4/8/37* *26/5/37*
 (If not, state date of approval)
 Donkey Boilers *25-2-37* General Pumping Arrangements *26-5-37* Oil Fuel Burning Arrangements *20-7-37*

SPARE GEAR.

Has the spare gear required by the Rules been supplied
 State the principal additional spare gear supplied

See attached list

The foregoing is a correct description,
 For HARLAND AND WOLF, LIMITED.

A. J. Marshall Manufacturer.

HB

Dates of Survey while building	1936		1937	
	During progress of work in shops--	During erection on board vessel--	During progress of work in shops--	During erection on board vessel--
	Dec 3, 4, 7, 10, 16, 17, 18	Jan 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31	Jan 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31	Feb 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31
Total No. of visits	<i>169</i>			

Dates of Examination of principal parts—Cylinders *9/2/37-6/10/37* Covers *7/8/37-1/12/37* Pistons *7/7/37-20/10/37* Rods Connecting rods *26/8/37-24/9/37*
 Crank shaft *P 17-8-37 S 29-9-37* Flywheel shaft Thrust shaft *S 26/9/37* Intermediate shafts *18/9/37-30/9/37* Tube shaft
 Screw shaft *30-9-37* Propeller *S 20/1/38* Stern tube *S 30/8/37* Engine sealings *9/9/37* Engines holding down bolts *17/12/37-24/12/37*

Completion of fitting sea connections *25/10/37* Completion of pumping arrangements *15/2/37* Engines tried under working conditions *15/2/37*
 Crank shaft, Material *Steel* Identification Mark *261* Flywheel shaft, Material Identification Mark
 Thrust shaft, Material *Steel* Identification Mark *261* Intermediate shafts, Material *Steel* Identification Marks *313*
 Tube shaft, Material Identification Mark Screw shaft, Material *Steel* Identification Mark *313*

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 *No* / If so, have the requirements of the Rules been complied with
 If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with *No*
 Is this machinery duplicate of a previous case *Yes* / If so, state name of vessel *"LEINSTER"* *Bel op N° 12030 3/11/37*

General Remarks (State quality of workmanship, opinions as to class, &c.)
The machinery of this vessel has been constructed to the Society's Rules under Special survey. The materials & workmanship are good. The main engines & auxiliary machinery have been efficiently installed & tried under full working with satisfactory results. The main generators were constructed under special survey and the electrical installation tested in accordance with the Rules.

In our opinion this vessel is eligible for Notation in the Society's Register Book + LMC 3-38 OG DB 80 lbs Oil Engines

The Main engine bedplates are fabricated by the electric welding process to approved design under Special survey.

The amount of Entry Fee	£ 6 : 0	When applied for,	
Special Welded bedplate	£ 133 : 13-6	When received,	<i>7 Mar 1938</i>
Donkey Boiler Fee	£ 6 : 6		
Air Receivers	£ 7 : 16		
Travelling Expenses (if any)	£ 10 : 10		<i>24/3 1938</i>

Charles G. Hunter, Rlee Ameson
 Engineer Surveyor to Lloyd's Register of Shipping.



Committee's Minute *FRI 11 MAR 1938*
 Assigned + *line 3.38* *1 SB 80 lbs*
Oil tank OG.

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