

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

23 JUL 1927

Date of writing Report 27th July 1927 When handed in at Local Office 27th July 1927 Port of Belfast
 No. in Survey held at Belfast Date, First Survey 24th Feb 1927 Last Survey 14th July 1927
 Reg. Book. on the STEEL TWIN SCREW BERTA (Number of Visits 39)
 Built at Belfast By whom built Harland & Wolff Ltd. Yard No. 798 When built 1927
 Engines made at Belfast By whom made Harland & Wolff Ltd. Engine No. 798 when made 1927
 Boilers made at Belfast By whom made Harland & Wolff Ltd. Boiler No. 798 when made 1927
 Registered Horse Power Owners Curacaoche Scheepvaart Maats. Port belonging to Willemstad, Curacao.
 Nom. Horse Power as per Rule 238 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes
 Trade for which Vessel is intended Ocean-going

ENGINES, &c.—Description of Engines Inverted high expansion twin screw Revs. per minute 130
 Dia. of Cylinders 13 1/2" 23 1/2" 36" Length of Stroke 27" No. of Cylinders Six No. of Cranks Six
 Crank shaft, dia. of journals as per Rule 7.19" Crank pin dia. 7 1/2" Crank webs Mid. length breadth 14 1/2" Thickness parallel to axis 4 1/2"
 as fitted 7 1/2" Mid. length thickness 4 3/4" Thickness around eye-hole 3 3/8"
 Intermediate Shafts, diameter as per Rule 6.85" Thrust shaft, diameter at collars as per Rule 7.19"
 as fitted 7" as fitted 7 1/2"
 Tube Shafts, diameter as per Rule 7.16" Screw Shaft, diameter as per Rule 7 1/2" Is the tube shaft fitted with a continuous liner Two liners turned together
 as fitted 7 1/2" as fitted 7 1/2"
 Bronze Liners, thickness in way of bushes as per Rule 5.35" Thickness between bushes as per Rule 40" Is the after end of the liner made watertight in the propeller boss Yes
 as fitted 5" as fitted 13/32"
 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 shaft Yes
 Propeller, dia. 8' 7" Pitch 9' 9" No. of Blades 4 Material Manilla whether Moveable No. Total Developed Surface 28 sq. feet
 Feed Pumps worked from the Main Engines, No. 2 Diameter 5" Stroke 4 1/2" Can one be overhauled while the other is at work Yes
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 5" Stroke 4 1/2" Can one be overhauled while the other is at work Yes
 Feed Pumps { No. and size 3- Two 8 1/2" x 6" x 18" One 7 1/2" x 5" x 6" Pumps connected to the { No. and size One 6" x 7 1/2" x 6"
 How driven Steam Main Bilge Line How driven Steam
 Ballast Pumps, No. and size One 6" x 7 1/2" x 6" Lubricating Oil Pumps, including Spare Pump, No. and size None
 Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary
 Bilge Pumps;—In Engine and Boiler Room Forward 2- 2 1/2" Aft 1- 3" S. R. Cofferdam Forward 2" to O.T. pumps
 Holds, &c. Forward 2- 2" Aft 1- 3" S. R. Cofferdam 1- 3" all 5 6" x 6" x 6" Firepeak suction steam pump
 Pump room 3- 2" & Hayward 2 1/2" x 6" x 6"
 Main Water Circulating Pump Direct Bilge Suctions, No. and size One 3 1/2" Independent Power Pump Direct Suctions to the Engine Room Bilges, and size One 3 1/2"
 Are all the Bilge Suction Pipes in holds and tanks 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
 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 stokehold 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
 At Pipes pass through the bunkers None How are they protected Yes
 At pipes pass through the deep tanks Yes Have they been tested as per Rule Yes
 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 None Is it fitted with a watertight door Yes worked from Yes

IN BOILERS, &c.—(Letter for record 5) Total Heating Surface of Boilers 3958 sq. ft.
 Forced Draft fitted Yes No. and Description of Boilers Two Single-End Cyl. Mues. Working Pressure 180 lbs.
 A REPORT ON MAIN BOILERS NOW FORWARDED? Yes
 A DONKEY BOILER FITTED? No If so, is a report now forwarded? Yes

ANS. Are approved plans forwarded herewith for Shafting Yes Main Boilers 26. 2. 27 Auxiliary Boilers Yes Donkey Boilers Yes
 (If not state date of approval)
 Heaters General Pumping Arrangements 2. 6. 27 Oil fuel Burning Piping Arrangements 27. 6. 27

ARE GEAR. State the articles supplied:— Two top end bolts + nuts; Two bottom end bolts + nuts; Two main bearing bolts; One set coupling; One eccentric strap + sheave; One engine guide shoe; One crank throw; propeller shaft (C.L.) and nut; Two W.M. linings for thrust shoes; Two propellers; One set piston rings H.P. I.P. & L.P.; One piston rod and gland; One pair top end braces with liners; One pair crank pin braces with liners; One slide valve spindle and block; One feed pump plunger; One bilge pump plunger; Two feed pump escape valve springs; One set pump and bilge pump valves and seals; One spring for each side main engine escape valves; 10 Boiler Tubes; 27 Condenser tubes + ferrules; 1 Boiler safety valve springs; Two check valve lids; 12 pump ring studs + nuts; Assorted bolts, nuts, studs + rivets; 1 valve, guards, springs and stems for each auxiliary pump; Oil fuel Spares:— 2 burner pipes; One set nozzles; One set diaphragm valves for one pump; Cased thermometer; Set chain, bags for suction strainer; Set chain, bags for delivery strainer; Two burner tubes; 10 heater tubes; Circulating Pump Gears Impeller + shaft; Set of bottom end braces; Set of top end braces; piston rod, piston + springs; 10 + engine spares, Armature, piston rod, piston + springs, slide valve rod, eccentric rod + chap, pair of bottom end braces; 1/2 set carbon brushes; 3 brush holders.

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

J. D. Keay

Manufacturer.



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Lloyd's Register
Foundation

002620-002630-0138

1927
Feb 24 Mar 4 26 28 May 2 4 9 10 11 13 16 18 20 24 25 26 27
June 1 6 8 10 13 14 15 17 20 21 24 25 27 28 29 30 July
1 6 7 11 13 14
During progress of work in shops --
During erection on board vessel --
Total No. of visits 39

Dates of Examination of principal parts—Cylinders 6.6.27 8.6.27 Slides 25.6.27 Covers 6.6.27 8.6.27
Pistons 15.6.27 Piston Rods 15.6.27 Connecting rods 15.6.27
Crank shaft 6.6.27 Thrust shaft 6.6.27 Intermediate shafts 28.6.27
Tube shaft 75.6.27 Screw shaft 20.6.27 Propeller 20.6.27
Stern tube 75.6.27 Engine and boiler seatings 28.6.27 Engines holding down bolts 7.7.27
Completion of fitting sea connections 30.6.27
Completion of pumping arrangements 13.7.27 Boilers fixed 7.7.27 Engines tried under steam 13.7.27
Main boiler safety valves adjusted 13.7.27 Thickness of adjusting washers 13.7.27
Crank shaft material S.M. Ingot Steel Identification Mark No 5 R.L.A. Thrust shaft material S.M. Ingot Steel Identification Mark No 5 R.L.A.
Intermediate shafts, material S.M. Ingot Steel Identification Marks No 5 R.L.A. Tube shaft, material Steel Identification Mark 27.6.27
Screw shaft, material S.M. Ingot Steel Identification Mark No 5 R.L.A. Steam Pipes, material Steel Test pressure 540 lbs Date of Test 9.7.27
Is an installation fitted for burning oil fuel Yes Is the flash point of the oil to be used over 150°F. Yes
Have the requirements of the Rules for carrying and burning oil fuel been complied with Yes
Is this machinery duplicate of a previous case No If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.)
The machinery of this vessel has been constructed under Special Survey. The materials & workmanship are sound & good. It has been efficiently installed on board the vessel. The main & auxiliary engines have been tried under steam. The oil fuel pipe lines have been tested in accordance with the rules. The controls of the oil fuel valves are capable of being operated locally and from outside the engine room.
In my opinion the machinery of this vessel is eligible for notation in the Society's Register.
RORH + L.M.C. 7.27 C.L. F.D. fitted for oil fuel 7.27 F.P. above 150°F

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 7.27 FD.C.L.
Fitted for oil fuel 7.27 F.P. above 150°F

JWD.
2/8/27
9/25

The amount of Entry Fee ... £ 4 : 0 :
Special ... £ 59 : 10 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, 25-7-1927
When received, 20.9.27

R. Lee Ames + H. Southwell
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute
Assigned
+ L.M.C. 7.27 F.D. C.L.
Fitted for Oil Fuel 7.27 F.P. above 150°F