

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

Date of writing Report 19 When handed in at Local Office 21-1-1930 Port of Belfast
 No. in Survey held at Belfast Date, First Survey 13th Feb 1929 Last Survey 15th Jan 1930
 Reg. Book. 26802 on the Steel S.S. "LINDENBANK" (Number of Visits)
 Built at Belfast By whom built Wm Workman Clark (1928) Ltd. Yard No. 509 When built 1930
 Engines made at Belfast By whom made Workman Clark (1928) Ltd. Engine No. 509 when made 1930
 Boilers made at Belfast By whom made Workman Clark (1928) Ltd. Boiler No. 509 when made 1930
 Registered Horse Power Owners Bank Line, Ltd. Port belonging to Belfast
 Nom. Horse Power as per Rule 565 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 *Quadruple Expansion* Revs. per minute
 Dia. of Cylinders 22, 32, 46 3/4, 68 Length of Stroke 48 No. of Cylinders 4 No. of Cranks 4
 Crank shaft, dia. of journals as per Rule 13.902 Crank pin dia. 14 1/4 Crank webs Mid. length breadth 21 3/8 Thickness parallel to axis 10 1/2 9"
 as fitted 14 1/4 Mid. length thickness 9" shrunk Thickness around eye-hole 6 1/4
 Intermediate Shafts, diameter as per Rule 13.24 Thrust shaft, diameter at collars as per Rule 13.902
 as fitted 13 1/16 13 1/2 as fitted 14 1/4
 Tube Shafts, diameter as per Rule Screw Shaft, diameter as per Rule 14.72 Is the {tube} shaft fitted with a continuous liner {yes
 as fitted 15 {screw}
 Bronze Liners, thickness in way of bushes as per Rule 7.49 Thickness between bushes as per Rule 5.62 Is the after end of the liner made watertight in the
 as fitted 3/4 as fitted 17/32 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 no If so, state type Length of Bearing in Stern Bush next to and supporting propeller 5'-6"
 Propeller, dia. 17'-9" Pitch 16'-3" No. of Blades 4 Material Bronze whether Movable yes Total Developed Surface 95 sq. feet
 Feed Pumps worked from the Main Engines, No. 2 Diameter 4 1/4 Stroke 24 Can one be overhauled while the other is at work yes
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 4 1/4 Stroke 24 Can one be overhauled while the other is at work yes
 Feed Pumps {No. and size two 8" x 10 1/2" x 22" Pumps connected to the {No. and size Ballast 12" x 12" x 17" Gen. Service 8" x 10 1/2" x 22"
 {How driven steam Main Bilge Line {How driven steam
 Ballast Pumps, No. and size One 12" x 12" x 12" Lubricating Oil Pumps, including Spare Pump, No. and size
 Are two independent means arranged for circulating water through the Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary
 Bilge Pumps;—In Engine and Boiler Room 4-3" in engine room 1-3" Tunnel well
 In Holds, &c. No. 1 Hold 2-3" No. 2 Hold 2-3 1/2" No. 3 Hold Bunker 2-3 1/2" Deep Tank 2-3"
 No. 4 Hold 2-3" No. 5 Hold 2-3"

Main Water Circulating Pump Direct Bilge Suctions, No. and size one at 9" dia Independent Power Pump Direct Suctions to the Engine Room Bilges,
 No. and size one Ballast pump 5" dia 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 No
 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 Star
 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 bilge How are they protected wood ceiling
 What pipes pass through the deep tanks none 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 Eng. Room
 Shutter Deck

MAIN BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 8112 sq. ft.
 Is Forced Draft fitted yes No. and Description of Boilers Three P.C. cylindrical Working Pressure 160 lbs.
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? yes 3SB.
 IS A DONKEY BOILER FITTED? no If so, is a report now forwarded?
 PLANS. Are approved plans forwarded herewith for Shafting Main Boilers yes Auxiliary Boilers Donkey Boilers
 (If not state date of approval)
 Superheaters General Pumping Arrangements yes Oil fuel Burning Piping Arrangements

SPARE GEAR. State the articles supplied:—

2 Top End Bolts & Nuts	1 Air Pump Rod	1 Propeller Shaft & Nut
2 Bottom " "	2 Fuel Check valves	2 Cast Iron propeller blades
2 Main Bearing Bolts & Nuts	1 Oxygen Gauge Glasses	
1 Set of Coupling Bolts & Nuts	2 Dry. packing rings for same	
1 Set H.P. piston rings & springs	2 Safety valve springs	
1 Set M.P. " "	1 Dry. Plain Tubes	
100 Condenser Tubes	100 Firebars	
25 " Tubes	1 Set Tube stoppers	
1 Set valves for Fuel Pump		
1 Set " " Bilge "		

The foregoing is a correct description,

FOR WORKMAN CLARK (1928) LIMITED.

J. Cunningham

Manufacturer.

Secretary



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Lloyd's Register
Foundation

W473-0280

1929
 Feb 13. 26. 27. 28 Mar. 6. 7. 12. 13. 15. 18. 20. 22. 26. 27. 28 Apr. 4. 8. 10. 12. 15. 17. 19. 22. 24. 26. 28
 May 6. 8. 10. 13. 15. 16. 17. 20. 22. 23. 27. 29. 30. 31 June 3. 5. 7. 14. 17. 19 July 1. 3. 5. 8. 9. 11
 23. 26. 29 Aug 2. 5. 4. 8. 9. 14. 15. 16. 19. 20. 21. 23. 26. 27. 29 Sept 4. 5. 6. 10. 18. 20. 23. 24. 30
 Oct 4. 8. 11. 15. 17 Nov 8 1930 Jan 2. 3. 5. 15
 Total No. of visits 89

Dates of Examination of principal parts—Cylinders 3-5-29 Slides 11-7-29 Covers 11-7-29
 Pistons 11-7-29 Piston Rods 7-6-29 Connecting rods 3-7-29
 Crank shaft 3-7-29 Thrust shaft 21-8-29 Intermediate shafts 21-8-29
 Tube shaft — Screw shaft 26-8-29 Propeller 7-6-29 fitted 4-9-29
 Stern tube 21-8-29 fitted 27-8-29 Engine and boiler seatings Engines holding down bolts 11-10-29
 Completion of fitting sea connections 5-9-29
 Completion of pumping arrangements 6-1-30 Boilers fixed 11-10-29 Engines tried under steam 3-1-30
 Main boiler safety valves adjusted 3-1-30 Thickness of adjusting washers 5/16 3/32 1/8 3/16 1/4 5/8 3/4
 Crank shaft material Steel Identification Mark A.D.M. 3-7-29 Thrust shaft material Steel Identification Mark A.D.M. 21-8-29
 Intermediate shafts, material Steel Identification Marks A.D.M. 21-8-29 Tube shaft, material Steel Identification Mark —
 Screw shaft, material Steel Identification Mark A.D.M. 26-8-29 Steam Pipes, material S.D. Steel Test pressure 780 lb. Date of Test 23-9-29
 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 the use of oil as fuel been complied with Yes
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo Ben oil. If so, have the requirements of the Rules been complied with Yes
 Is this machinery duplicate of a previous case Yes If so, state name of vessel Forkbanks.

General Remarks (State quality of workmanship, opinions as to class, &c.) The machinery of this vessel was constructed under Special Survey. The materials and workmanship are sound and good. The main engines and auxiliaries were tried under steam at a moored trial and sea trial, with satisfactory results. In our opinion the vessel is eligible for notation in the Register Book + LMC 1,30. CL. Boiler pressure 260 lbs. Fitted for oil fuel. F.P. above 150°F.

It is submitted that this vessel is eligible for THE RECORD.

+ LMC 1-30. F.D. CL.

Fitted for oil fuel 1-30. F.P. above 150°F.

23/1/30.

Certificate to be sent to the Surveyors are requested not to write on or below the space for Committee's Minute.

The amount of Entry Fee ... £ 6 : - : When applied for, 21-1-1930
 Special ... £ 103 : 5 : When received, 5-2-30
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ : :

Committee's Minute

Assigned

FRI. 24 JAN 1930

+ LMC 1-30. 32, CL. Fitted for oil fuel 1-30. F.P. above 150°F.

John K. Williams.
 Engineer Surveyor to Lloyd's Register of Shipping.



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