

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

22 JAN 1930

Date of writing Report 21-1-30 When handed in at Local Office 21-1-30 Port of Belfast

No. in Survey held at Belfast Date, First Survey 13<sup>th</sup> Feb 1929 Last Survey 15<sup>th</sup> Jan 1930

Reg. Book. 26802 on the Steel S.S. "LINDENBANK" (Number of Visits)

Built at Belfast By whom built Grims 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 shaft fitted with a continuous liner? as fitted 15 Is the after end of the liner made watertight in the propeller boss? Yes

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 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? No Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft? No

Propeller, dia. 17-9 Pitch 16-3 No. of Blades 4 Material Bronze whether Moveable? 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 Main Bilge Line No. and size Ballast 12 x 12 x 17 Gen. Service 8 x 10 1/2 x 22 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? Yes 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 Coal 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? Below

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? Yes

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 Shellin 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 S.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? No

**PLANS.** Are approved plans forwarded herewith for Shafting? No Main Boilers? Yes Auxiliary Boilers? No Donkey Boilers? No

Superheaters? No General Pumping Arrangements? Yes Oil fuel Burning Piping Arrangements? No

**SPARE GEAR.** State the articles supplied:—

2 Top End Bolts & Nuts	1 Air Pump Rod	1 Propeller Shaft - Nut
2 Bottom " " "	2 Feed Check valves	2 Cast Iron propeller blades
2 Main Bearing Bolts & Nuts	1 Drogen Gang Glasses	
1 Set of Coupling Bolts & Nuts	2 Drogen packing rings for same	
1 Set H.P. piston rings & springs	2 Safety valve springs	
1 Set M.P. " " "	1 Drogen Plain Tubes	
100 Condenser Funnels	100 Firebars	
25 " " Tubes	1 Set Tube stoppers	
1 Set valves for Feed 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 Engines tried under steam 3-1-30  
 Completion of pumping arrangements 6-1-30 Boilers fixed 11-10-29 Thickness of adjusting washers  
 Main boiler safety valves adjusted 3-1-30 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 ✓ Identification Mark  
 Screw shaft, material Steel Identification Mark A.D.M. 26-8-29 Steam Pipes, material S.D. Steel Test pressure 780 lbs. Date of Test 23-9-29  
 Is an installation fitted for burning oil fuel ✓ Is the flash point of the oil to be used over 150°F. ✓  
 Have the requirements of the Rules for the use of oil as fuel been complied with ✓  
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo Sea oil. If so, have the requirements of the Rules been complied with ✓  
 Is this machinery duplicate of a previous case Yes. If so, state name of vessel Forkbank.

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  
 J.K.W.

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

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

Committee's Minute FRI. 24 JAN 1930  
 Assigned + LMC 1,30. 3D, CL. Fitted for oil fuel 1,30. F.P. above 150°F.  
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