

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 12 AUG 1931

Date of writing Report Aug 5th 1931 When handed in at Local Office 10-8-31 Port of Liverpool
 No. in Survey held at Birkenhead Date, First Survey 16th July 30 Last Survey 7th August 1931
 Reg. Book. 23354 on the S. S. 'Hilary' (Number of Visits 128)
 Built at Birkenhead By whom built Messrs Cammell Laird & Co Ltd Yard No. 975 Tons { Gross 6184
 Engines made at Birkenhead By whom made Cammell Laird & Co Ltd Engine No. 975 When built 1931 Net 4350
 Boilers made at Birkenhead By whom made Cammell Laird & Co Ltd Boiler No. 975 When made 1931
 Registered Horse Power 1033 Owners The British Steamship Co Ltd Port belonging to Liverpool
 Nom. Horse Power as per Rule 1033 Is Refrigerating Machinery fitted for cargo purposes Ys. one small space. Is Electric Light fitted Ys.
 Trade for which Vessel is intended 12/1/31

ENGINES, &c.—Description of Engines Vertical Triple Expansion Revs. per minute 75
 Dia. of Cylinders 29.48 1/2" 8 1/2" Length of Stroke 57" No. of Cylinders 3 No. of Cranks 3
 Crank shaft, dia. of journals as per Rule 16.8" Crank pin dia. 18 1/4" Crank webs Mid. length breadth 38 3/4" Thickness parallel to axis 11 1/4"
 Intermediate Shafts, diameter as per Rule 16.9" Thrust shaft, diameter at collars as per Rule 16.8" Thickness around eye-hole 7 7/8"
 Tube Shafts, diameter as per Rule 17.7" Screw Shaft, diameter as fitted 18 3/4" Is the late shaft fitted with a continuous liner Ys.
 Bronze Liners, thickness in way of bushes as per Rule 8 1/4" Thickness between bushes as per Rule 6.3" Is the after end of the liner made watertight in the propeller boss Ys.
 If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner one length.
 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 light fit.
 If two liners are fitted, is the shaft lapped or protected between the liners Ys. Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft no If so, state type Ys.
 Propeller, dia. 19'6" Pitch 20'6" No. of Blades 4 Material bronze blades whether Moveable Ys. Total Developed Surface 120 sq. feet
 Feed Pumps worked from the Main Engines, No. Ys. Diameter Ys. Stroke Ys. Can one be overhauled while the other is at work Ys.
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 4 1/4" Stroke 30" Can one be overhauled while the other is at work Ys.
 Feed Pumps { No. and size 2-9 1/8" x 13 1/2" x 24" duplex Pumps connected to the { No. and size 1-10 x 12 x 12" 1-12 x 18 x 12"
 { How driven steam Main Bilge Line { How driven steam + one elec emergency 20 tons
 Ballast Pumps, No. and size 3 1-10 x 12 x 12" 1-12 x 8 x 12" 1-6 x 8 1/2 x 18" Lubricating Oil Pumps, including Spare Pump, No. and size Ys.
 Are two independent means arranged for circulating water through the Oil Cooler Ys. Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room Engine Room 2-2" dia. 2-2 1/2" 1-3" Boiler Room 2-2" 1-5" (Emergency pump)
 In Pump Room 2-2 1/2" 1-4 hdd 2-2 1/4" 1-3-2-3" Shaft tunnel 1-2" 1-2 1/4" In Holds, &c. 17 hold 2-2 1/2" dia 1-2-2-2 1/2" dia 1-3-2-2 1/2" Bunkers
 Main Water Circulating Pump Direct Bilge Suctions, No. and size 1-15" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-5" 1-5" 1-5" Emergency pump
 Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes Ys.
 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 Ys.
 Are all Sea Connections fitted direct on the skin of the ship Ys. Are they fitted with Valves or Cocks Ys.
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Ys. 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 Ys. Are the Blow Off Cocks fitted with a spigot and brass covering plate Ys.
 What Pipes pass through the bunkers Peak tank How are they protected Sheet pine ceiling
 What pipes pass through the deep tanks Peak tank Have they been tested as per Rule Ys.
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Ys.
 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 Ys. Is the Shaft Tunnel watertight Ys. Is it fitted with a watertight door Ys. worked from 27' deck

MAIN BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 13200 sq. ft.
 Is Forced Draft fitted Ys. No. and Description of Boilers 5- Single ended Working Pressure 230 lb. sq. in.
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? Ys.
 IS A DONKEY BOILER FITTED? no If so, is a report now forwarded? Ys.
 Is the donkey boiler intended to be used for domestic purposes only Ys.
 PLANS. Are approved plans forwarded herewith for Shafting Ys. Main Boilers Ys. Auxiliary Boilers Ys. Donkey Boilers Ys.
 (If not state date of approval)
 Superheaters Ys. General Pumping Arrangements Ys. Oil fuel Burning Piping Arrangements Ys.

SPARE GEAR.

Has the spare gear required by the Rules been supplied Ys.

State the principal additional spare gear supplied

One piston rod, one screw shaft, two bronze prop. blades, one HP one SP valve rod, also one SP valve rod, air pump rod, one HP one SP one SP piston ring, and other items as per spare gear list attached herewith.

The foregoing is a correct description,
 FOR CAMMELL LAIRD & CO., LTD.

Manufacturer.

Commercial Manager
 & Accountant.



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Lloyd's Register
 Foundation

005307-005310-0091

July 16, 18. Aug 15, 20, 22, 25. Sept 2, 15, 22, 24. Oct 2, 3, 5, 14, 15, 16, 22, 23, 29, 30, 31. Nov 3, 4, 5, 6, 10, 12, 13, 17, 18, 20, 24, 25, 26, 27. Dec 1, 3, 5, 8, 10, 11, 12, 15, 17, 19, 22, 23, 29. Jan 5, 6, 7, 8, 15, 20, 21, 27, 28, 29. Feb 5, 6, 9, 11, 16, 17, 20, 24, 26, 27. Mar 2, 3, 6, 9, 10, 11, 13, 16, 18, 19, 23, 27, 30, 31. Apr 1, 2, 8, 9, 10, 14, 15, 16, 17, 21, 23, 24, 27, 28, 29, 30. May 1, 4, 5, 6, 7, 8, 13, 14, 15, 18, 20, 22, 28. June 1, 4, 8, 10, 16, 18, 23, 25, 29. July 2, 6, 9, 24, 28. Aug 7.

Dates of Survey while building

During progress of work in shops --

During erection on board vessel --

Total No. of visits 128.

Dates of Examination of principal parts—Cylinders 4/11/31, 13/11/31, 24/11/31, 4/12/31, 27/12/31 Slides 8/14/31, 2/2/31 Covers 6/1/31, 27/12/31

Pistons 4/11/31, 6/1/31 Piston Rods 2/1/31, 2/9/31, 15/10/31, 13/11/31 Connecting rods 20/1/31, 2/9/31, 15/10/31, 13/11/31

Crank shaft 20/4/30, 2/9/30, 19/1/31 Thrust shaft supplied from Dalman Intermediate shafts 15/10/31, 17/11/31, 29/1/31

Tube shaft Screw shaft 2/11/31, 24/11/31 Propeller 15/4/31

Stern tube 8/11/30, 19/1/31 Engine and boiler seatings 17/2/31 Engines holding down bolts 7/5/31

Completion of fitting sea connections 17/3/31 Boilers fixed 1/5/31 Engines tried under steam 24/7/31

Completion of pumping arrangements 2/7/31 Thickness of adjusting washers Pat. 3rd 2 3/8 9 7/16, Pat. 4th 2 3/8 9 7/16, Pat. 5th 2 3/8 9 7/16, Pat. 6th 2 3/8 9 7/16, Pat. 7th 2 3/8 9 7/16, Pat. 8th 2 3/8 9 7/16, Pat. 9th 2 3/8 9 7/16, Pat. 10th 2 3/8 9 7/16, Pat. 11th 2 3/8 9 7/16, Pat. 12th 2 3/8 9 7/16

Main boiler safety valves adjusted 4/6/31 Crank shaft material steel Identification Mark 4236 RWF Thrust shaft material steel Identification Mark 4236 RWF

Intermediate shafts, material steel Identification Marks 4236 RWF Tube shaft, material steel Identification Mark 4236 RWF

Screw shaft, material steel Identification Mark 4236 RWF Steam Pipes, material steel Test pressure 690 lb. Date of Test 10/4/31, 24/4/31

Is an installation fitted for burning oil fuel no 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 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

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 and is in accordance with the Rules and the approved plans. A Bauerbach Installation, made by Messrs. Beardmore & Co. Dalman (Glasgow Rpt No 51256) has been satisfactorily fitted in addition to the reciprocating machinery detailed above, and on completion of work the machinery has been examined during sea trials and found satisfactory.

The machinery is now eligible in my opinion for classification in Register book with record of L.M.C. 8.31, and notation of 'L.P. turbine with D.R. gearing hydraulic coupling' in addition to the usual notation.

The amount of Entry Fee ... £ 6 : 0 : 0 When applied for, 6/6/31

Special ... £ 97 : 0 : 6 When received, 11/8/31

Donkey Boiler Fee ... £ 1 : 0 : 0

Travelling Expenses (if any) £ 1 : 0 : 0

J. P. Milton
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute LIVERPOOL 11 AUG. 1931

Assigned + L.M.C. 8.31.
Ch. F.D.
Note L.P. turbine.
Elec. Light.