

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office - 6 NOV 1930

Date of writing Report 31. 10. 1930 When handed in at Local Office 31. 10. 1930 Port of MIDDLESBROUGH.

No. in Survey held at STOCKTON. Date, First Survey 19 March. Last Survey 23. 10. 1930.
Reg. Book. 68903 on the sc. "DARTFORD" (Number of Visits 40)

Built at Stockton By whom built Smiths Dock Co. Ltd. Yard No. 921. When built 1930.

Engines made at do. By whom made Blair & Co (1926) Ltd. Engine No. 1986. When made 1930.

Boilers made at do. By whom made do. Boiler No. 1986. When made 1930.

Registered Horse Power Owners Britain S.S. Co. Ltd. Port belonging to London.

Nom. Horse Power as per Rule 367.7 368 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted Yes.

Trade for which Vessel is intended General cargo.

ENGINES, &c.—Description of Engines Triple Expansion Revs. per minute 65.

Dia. of Cylinders 23 1/2" 40" 67" Length of Stroke 45" No. of Cylinders 3. No. of Cranks 3.

Crank shaft, dia. of journals as per Rule 12.56" Crank pin dia. 14" Crank webs Mid. length breadth 1'-10 1/4" Thickness parallel to axis 9" as fitted 13 1/2" Mid. length thickness 9" shrunk Thickness around eye-hole 6 1/2"

Intermediate Shafts, diameter as per Rule 11.96" Thrust shaft, diameter at collars as per Rule 12.56" as fitted 13" as fitted 14"

Tube Shafts, diameter as per Rule 13.36" Screw Shaft, diameter as per Rule 15" Is the shaft fitted with a continuous liner Yes.

Bronze Liners, thickness in way of bushes as per Rule 3" Thickness between bushes as per Rule 3 1/2" 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.

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.

Propeller, dia. 16'-9" Pitch 16'-9" No. of Blades 4 Material Bronze, whether Movable no. Total Developed Surface 92 sq. feet.

Feed Pumps worked from the Main Engines, No. 2 Diameter 3 1/4" Stroke 33" Can one be overhauled while the other is at work. Bilge Pumps worked from the Main Engines, No. 2 Diameter 3 1/4" Stroke 33" Can one be overhauled while the other is at work.

Feed Pumps No. and size 2-8 1/2" x 6" x 18" Weir How driven 2-7" x 5" x 8" Hamant Duplex. Pumps connected to the Main Bilge Line No. and size 2-8" x 9" x 8" Hamant Duplex. How driven Steam.

Ballast Pumps, No. and size 2-8" x 9" x 8" Hamant Duplex. Lubricating Oil Pumps, including Spare Pump, No. and size. Are two independent means arranged for circulating water through the Oil Cooler.

Bilge Pumps;—In Engine and Boiler Room 3-2 1/2" 1-2" in Tunnel. 1-2 1/2" in Tunnel well. In Pump Room. In Holds, &c. No 1: 2-3"; No 2: 2-3 1/2"; No 4: 2-2 3/4"; No 5: 2-2 1/2".

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1-7" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-4 1/2". Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes Yes or half with perforated covers.

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. Are all Sea Connections fitted direct on the skin of the ship. 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. Are the Overboard Discharges above or below the deep water line. Are they each fitted with a Discharge Valve always accessible on the plating of the vessel. Are the Blow Off Cocks fitted with a spigot and brass covering plate.

What Pipes pass through the bunkers. For 1 bilge suction. How are they protected wood casings. 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. 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. Is the Shaft Tunnel watertight. Is it fitted with a watertight door worked from E.R. entrance main deck level.

MAIN BOILERS, &c.—(Letter for record S.) Total Heating Surface of Boilers 6173 sq. ft. Working Pressure 185 lbs.

Is Forced Draft fitted no. No. and Description of Boilers 3 S.B. IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes.

IS A DONKEY BOILER FITTED? no. If so, is a report now forwarded? Is the donkey boiler intended to be used for domestic purposes only.

PLANS. Are approved plans forwarded herewith for Shafting Yes Main Boilers Yes Auxiliary Boilers Donkey Boilers Superheaters General Pumping Arrangements Oil fuel Burning Piping Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes. State the principal additional spare gear supplied 1 C.D. propeller; 1 tail shaft; 1 pair bottom end brasses; 1 pair top end brasses; 2 safety valve springs; 2 main & 2 donkey check valve lids; 12 piston bolts; 3 piston nuts; 12 anodes & glands; 2 cover studs; 12 anodes brass studs & nuts for pumps; 6 holding down bolts; 3 condenser tubes; 25 condenser ferrules; 2 furnace doors; quantity fuelbars, baffles, back bridge, primer blades, gauge glass and cone.

The foregoing is a correct description,

For BLAIR & CO. (1926) LIMITED.

Secretary

Manufacturer.

W163-0021

Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

1930 - Mar 19, Apr 7, 15, 23, 25, May 7, 9, 16, 20, 27, 29, June 3, 4, 12, 16, 24, 30, July 4, 7
 During progress of work in shops - - 15, 22, 25, 30, Aug 6, 25, 27, Sep 12, 17, 18, 23
 Dates of Survey while building }
 During erection on board vessel - - 1930 Sep 25, Oct 1, 2, 3, 6, 7, 9, 10, 22, 23
 Total No. of visits 40

Dates of Examination of principal parts - Cylinders 27.5.30. Slides 15.7.30. Covers 27.5.30.
 Pistons 16.6.30. Piston Rods 16.6.30. Connecting rods 24.6.30.
 Crank shaft 16.6.30. Thrust shaft 16.6.30. Intermediate shafts 30.6.30.
 Tube shaft 17.9.30. Screw shaft 25.8.30. Propeller 17.9.30.
 Stern tube 17.9.30. Engine and boiler seatings 18.9.30. Engines holding down bolts 9.10.30.
 Completion of fitting sea connections 18.9.30.
 Completion of pumping arrangements 20.10.30. Boilers fixed 2.10.30. Engines tried under steam 23.10.30.
 Main boiler safety valves adjusted 9.10.30. Thickness of adjusting washers Port $\frac{11}{32}$ p. $\frac{3}{8}$ S; Centre bolt $\frac{11}{32}$; Star. p. $\frac{5}{16}$ $\frac{3}{32}$
 Crank shaft material Steel Identification Mark LLOYDS No 1323 M. Thrust shaft material Steel Identification Mark LLOYDS No 3601 S. 16.6.30 P.T.B.
 Intermediate shafts, material steel Identification Marks LLOYDS No 1340 M. 30.6.30 P.T.B. Tube shaft, material Identification Mark ✓
 Screw shaft, material iron Identification Mark LLOYDS No 1388 M. 25.8.30 P.T.B. Steam Pipes, material Steel Test pressure 560 lbs. Date of Test 3.10.30.
 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 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 no. If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c.)
 The materials and workmanship are good.
 This machinery has been built under special survey in accordance with the Rules and approved Plans, it has been securely fitted aboard and tested under working conditions with satisfactory results and is, in my opinion, suitable for classification with record + L.M.C. 10.30.

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 10.30 C-L.

[Signature]
 10/11/30

[Signature]
 Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ 5-0-0 } When applied for,
 Special ... £ 80-4-0 } 5 Nov 1930
 Donkey Boiler Fee ... £ : : }
 Travelling Expenses (if any) £ : : } When received, 11.11.30

Committee's Minute FRI. 14 NOV 1930
 Assigned + dmb 10.30 L.

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