

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

28 APR 1928

Date of writing Report 27 APR 1928 When handed in at Local Office Port of Sunderland
 No. in Survey held at Sunderland Date, First Survey 11th Apr 27 Last Survey 24th Apr 1928
 Reg. Book. 40058 on the G.S. "BARBARA MARIE" (Number of Visits 78) Tons { Gross 4223
 Built at Sunderland By whom built W. J. Priestman & Co Ltd Yard No. 278 When built 1928
 Engines made at Sunderland By whom made George Clark Ltd Engine No. 1150 when made 1928
 Boilers made at Sunderland By whom made Do Boiler No. 1150 when made 1928
 Registered Horse Power Owners The Hillside Shipping Co Port belonging to Newcastle
 Nom. Horse Power as per Rule 375 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 Trade for which Vessel is intended General

ENGINES, &c.—Description of Engines Triple expansion Revs. per minute 73
 Dia. of Cylinders 25-41-69 Length of Stroke 48 No. of Cylinders 3 No. of Cranks 3
 Crank shaft, dia. of journals as per Rule 13.213 Crank pin dia. 13 1/4 Crank webs Mid. length breadth 20 Thickness parallel to axis 8 1/2
 as fitted 13 1/4 Mid. length thickness 8 1/2 shrunk Thickness around eye-hole 5 1/8
 Intermediate Shafts, diameter as per Rule 12.584 Thrust shaft, diameter at collars as per Rule 13.213
 as fitted 12 5/8 as fitted 13 1/4
 Tube Shafts, diameter as per Rule 14.042 Is the { tube } shaft fitted with a continuous liner { Yes }
 as fitted 14 1/2 { screw }
 Bronze Liners, thickness in way of bushes as per Rule .72 Thickness between bushes as per Rule Is the after end of the liner made watertight in the
 as fitted 3/4 as fitted — 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 Length of Bearing in Stern Bush next to and supporting propeller 5-0
 Propeller, dia. 17-6 Pitch 17-3 No. of Blades 4 Material C.I. whether Moveable No Total Developed Surface 98.5 sq. feet
 Feed Pumps worked from the Main Engines, No. 2 Diameter 3 1/2 Stroke 26 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 26 Can one be overhauled while the other is at work Yes
 Feed Pumps { No. and size 1 Fed 7 1/2 x 5 x 6 Pumps connected to the { No. and size 1 2 9 x 10 x 10
 How driven Steam Main Bilge Line { How driven Steam
 Ballast Pumps, No. and size One Ballast 9 x 10 x 10 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 2 1/2 x 12 1/2 Tunnel Well
 In Holds, &c. No 1, 2 2 3 No 2, 2 2 3 1/2 No 3, 2 2 3 1/2 No 4, 2 2 3

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 2 8 Independent Power Pump Direct Suctions to the Engine Room Bilges,
 No. and size 1 2 4 1/2 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 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 Above
 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 None How are they protected —
 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

MAIN BOILERS, &c.—(Letter for record 5) Total Heating Surface of Boilers 6009 sq. ft.
 Is Forced Draft fitted No No. and Description of Boilers Three large Smith's S.E. Working Pressure 180 lbs.
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes
 IS A DONKEY BOILER FITTED? No If so, is a report now forwarded? —

PLANS. Are approved plans forwarded herewith for Shafting 13/1/27 Main Boilers Yes Auxiliary Boilers — Donkey Boilers —
 Superheaters — General Pumping Arrangements Yes Oil fuel Burning Piping Arrangements —

SPARE GEAR. State the articles supplied:— 2 Connecting Rod Top End 2 Connecting Rod Bottom end
both with 2 main bearing bolts, 1 set of coupling bolts, 1 set feed & bilge pump
valves, 1 set safety valve springs, a quantity of assorted bolts & nuts &
iron of various sizes, 1 C.I. propeller, 1 set air & circulating
pump valves, 8 boiler tubes, 46 condenser tubes.

The foregoing is a correct description,
 FOR GEORGE CLARK LIMITED

Woodhall
 Manufacturer.



During progress of work in shops - - - 1927. Feb. 11, 15, 17, 23. Mar. 2, 4, 9, 15, 16, 17, 21, 23, 24, 28, 31. Apr. 6, 11, 13, 25, 27, 29, 18, 20, 25. June 1, 9, 13, 16, 20, 21
 July, 19, 21, 25, 27, 29. Aug. 12, 23. Sep. 1, 9, 15, 21, 26, 28, 30. Oct. 5, 7, 10, 18. Nov. 15, 21. Dec. 2, 16, 22, 23
 During erection on board vessel - - - 1928. Jan. 4, 12, 11, 16, 19, 30. Feb. 1, 23, 28. Mar. 8, 12, 13, 14, 15, 16, 19, 20, 22, 26. Apr. 12, 16, 23, 24
 Total No. of visits 78

Dates of Examination of principal parts—Cylinders 28/6/27 Slides 13/4/27 Covers 21/9/27
 Pistons 23/3/27 Piston Rods 6/4/27 Connecting rods 27/7/27
 Crank shaft 26/9/27 Thrust shaft 26/9/27 Intermediate shafts 1/2/28
 Tube shaft ✓ Screw shaft 10/1/28 Propeller 1/9/27
 Stern tube 23/8/27 Engine and boiler seatings 12/3/28 Engines holding down bolts 14/3/28
 Completion of fitting sea connections 20/3/28 & 28/2/28
 Completion of pumping arrangements 20/3/28 Boilers fixed 20/3/28 Engines tried under steam 19/3/28
 Main boiler safety valves adjusted 19/3/28 Thickness of adjusting washers PORT B. CENTRE B. 5 1/2" 5 1/2" 5 1/2" 5 1/2" 5 1/2"
 Crank shaft material I. STEEL Identification Mark 945 Thrust shaft material I. STEEL Identification Mark 998
 Intermediate shafts, material I. STEEL Identification Marks 859, 868, 851 Tube shaft, material ✓ Identification Mark ✓
 Screw shaft, material I. STEEL Identification Mark 998 Steam Pipes, material LW STEEL Test pressure 540 lbs Date of Test 12/3/28
 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 carrying and burning oil fuel been complied with ✓
 Is this machinery duplicate of a previous case No If so, state name of vessel S. S. FRANCES MASSEY.

General Remarks (State quality of workmanship, opinions as to class, &c. The engines & boilers of this vessel have been built under special survey & the materials & workmanship are good. On completion they were tried under a full head of steam with satisfactory results. The machinery throughout is now in a good & efficient condition & eligible in our opinion to have the notation LMC-4-28 marked in Red in the Society's Register Book also T.S.C.L.

NOTE - While the vessel was entering the South Dock after the morning trial the propeller fouled the Quay Wall (18/4/28) and about three feet was broken from one of the blades. The vessel was tipped tail end shaft drawn inboard examined, afterwards replaced and a new cast iron propeller fitted (see damage report attached).

It is submitted that this vessel is eligible for THE RECORD. + LMC 4-28 Cl.

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

The amount of Entry Fee ... £ 5-0-0 When applied for, 10 APR 1928
 Special ... £ 81-5-0 When received, 26 APR 1928
 Donkey Boiler Fee ... £ 3-3-0
 Travelling Expenses (if any) £ : : 9.5.28

J. I. Griffiths.
 Harbour.
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 4 MAY 1928
 Assigned + LMC 4-28 Cl.



CERTIFICATE WRITTEN