

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 6 JUN 1930

Date of writing Report 19 When handed in at Local Office - 5 JUNE 1930 Port of Sunderland
 No. in Survey held at Sunderland Date, First Survey 1st Jan '30 Last Survey June 5 1930
 Reg. Book. on the S.S. HARBERTON (Number of Visits 43)
 Built at Sunderland By whom built Shaw Bros Ltd. Yard No. 442 Tons { Gross 4585 Net 2728
 Engines made at Do By whom made Geo Rank Ltd Engine No. 1188 when made 1920
 Boilers made at Do By whom made Do Boiler No. 1188 when made 1920
 Registered Horse Power Owners National Shipping Co Ltd Port belonging to London
 Nom. Horse Power as per Rule 417 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 70
 Dia. of Cylinders 25"-41"-68" Length of Stroke 145 No. of Cylinders 3 No. of Cranks 3
 Crank shaft, dia. of journals as per Rule 12.898 Crank pin dia. 13 7/8 Crank webs Mid. length breadth 19 1/2 Thickness parallel to axis 8 5/8
 as fitted 13 7/8 Mid. length thickness 8 5/8 Thickness around eye-hole 5 1/4
 Intermediate Shafts, diameter as per Rule 12.284 Thrust shaft, diameter at collars as per Rule 12.898
 as fitted 12 7/16 as fitted 13 3/8
 Tube Shafts, diameter as per Rule 4 Screw Shaft, diameter as per Rule 13.744 Is the lube shaft fitted with a continuous liner Yes
 as fitted 4 as fitted 14 3/16 as fitted 14 3/16 Is the screw shaft fitted with a continuous liner Yes
 Bronze Liners, thickness in way of bushes as per Rule 22.9/32 Thickness between bushes as per Rule 3/4 Is the after end of the liner made watertight in the
 as fitted 3/4 as fitted 3/4 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 4'-9"
 Propeller, dia. 17'-6" Pitch 16'-0" No. of Blades 4 Material Brz whether Moveable No Total Developed Surface 104 sq. feet
 Feed Pumps worked from the Main Engines, No. None Diameter - Stroke - Can one be overhauled while the other is at work -
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 3 1/4 Stroke 26 Can one be overhauled while the other is at work Yes
 Feed Pumps { No. and size 1 pair 4 1/2" x 2 1/2" Pumps connected to the Main Bilge Line No. and size 1 @ 10 1/2" x 12 1/2" x 21" simplex
 How driven Steam How driven Steam
 Ballast Pumps, No. and size 1 @ 10 1/2" x 12 1/2" x 21" simplex Lubricating Oil Pumps, including Spare Pump, No. and size None
 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 3 @ 2 1/2" Tunnel Well 1 @ 2 1/4"
 In Holds, &c. No 1, 2 @ 2 3/4", No 2, 2 @ 3 1/2", No 3, 2 @ 3", No 4, 2 @ 2 3/4"

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 @ 8" 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
 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 - 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 Yes Is the Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Deck

MAIN BOILERS, &c.—(Letter for record (7)) Total Heating Surface of Boilers 2 main 5764 sq ft 1 aux 1787 Total 7551 sq ft
 Is Forced Draft fitted No No. and Description of Boilers one aux 1000 lbs S.E. Working Pressure 180 lbs
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes 2 SB. + 1 Aux B.
 IS A DONKEY BOILER FITTED? No. If so, is a report now forwarded? -
 PLANS. Are approved plans forwarded herewith for Shafting Yes Main Boilers Yes Auxiliary Boilers Yes Donkey Boilers -
 Superheaters - General Pumping Arrangements Yes Oil fuel Burning Piping Arrangements -

SPARE GEAR. State the articles supplied:— 2 faneets, nut top end & two connecting rods bottom end, bolts & nuts, 2 main bearing bolts, 1 set coupling bolts, 1 set of feed & bilge pump valves, a quantity of assorted bolts & nuts, 1 set of various sizes, 10 condenser tubes, 6 boiler tubes, 1 main & 1 aux feed & check valve slides, 3 sink ring bolts & nuts, 1 set main propeller propeller shaft, 1 set air pump valves, 1 do bilge pump valves

The foregoing is a correct description,
 FOR GEORGE CLARK LIMITED
W. B. MUM Manufacturer.



NOTE.—The words which do not apply should be deleted.

014501-014512-0136

1930. Jan. 14, 30 Feb. 24. Mch. 4, 5, 7, 12, 19, 24, 25, 27, 31. Apl. 1, 2, 3, 4, 7, 8, 9, 11, 15, 16, 23, 24, 25, 29.
 During progress of work in shops - - May. 1, 2, 5, 6, 7, 12, 14, 17, 19, 20, 22, 23, 24, 27, 28. June. 3, 5.
 Dates of Survey while building { During erection on board vessel - - - }
 Total No. of visits 43

Dates of Examination of principal parts—Cylinders 3/4/30 Slides 7/3/30 Covers 27/3/30
 Pistons 19/3/30 Piston Rods 25/3/30 Connecting rods 4/3/30
 Crank shaft 25/3/30 Thrust shaft 24/3/30 Intermediate shafts 23/4/30
 Tube shaft - Screw shaft 23/4/30 Propeller 11/4/30
 Stern tube 24/4/30 Engine and boiler seatings 12/5/30 Engines holding down bolts 24/5/30
 Completion of fitting sea connections 25/4/30
 Completion of pumping arrangements 28/5/20 Boilers fixed 23/5/30 Engines tried under steam 27/5/30
 Main boiler safety valves adjusted 27/5/30 Thickness of adjusting washers P¹³/₃₂ S¹³/₃₂ P¹³/₃₂ S¹³/₃₂ P¹³/₃₂ S⁷/₁₆
 Crank shaft material I. STEEL Identification Mark 124 Thrust shaft material I. STEEL Identification Mark 198
 Intermediate shafts, material I. STEEL Identification Marks 1576, 228, 1558 Tube shaft material - Identification Mark -
 Screw shaft, material I. STEEL Identification Mark 1559 W 1577, 1577, 1577, 1577 Steam Pipes, material LW STEEL Test pressure 540 Date of Test 17/5/30
 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 carrying and burning oil fuel 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 engines & boilers of this vessel have been built under special survey & the materials & workmanship are good. On completion the machinery was tried under a full head of steam and found satisfactory. The machinery throughout is now in a good & efficient condition & eligible in my opinion to have the notation L.M.C. 6-30 & T.S.C.L marked in the Society's Register Book.

It is submitted that this vessel is classed THE RECORD + L.M.C. 6. 30 cl.
 J. H. [Signature]
 6/6/30

SUNDERLAND

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 ... £ 5-0-0 When applied for,
 Special ... £ 87-11-0 30 May 19 30
 Donkey Boiler Fee ... £ : : When received,
 Travelling Expenses (if any) £ : : 6. 6. 30

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

Committee's Minute FRI. 6 JUN 1930
 Assigned + L.M.C. 6. 30 C.L.

CERTIFICATE WRITTEN

