

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 15 AUG 1928

Date of writing Report 19 15.8.28 When handed in at Local Office 15.8.28 Port of Newcastle
 No. in Survey held at Newcastle Date, First Survey 27 Jan Last Survey 10 Aug 1928
 Reg. Book. 9652 on the New Steel S.S. Watford (Number of Visits 57)
 Built at Dundee By whom built Caledon S.S. Coy Ltd. Yard No. 322 Tons ^{Gross} _{Net} When built 1928
 Engines made at Wallsend By whom made North Eastern Mar. E. Coy Ltd Engine No. 2663 when made 1928
 Boilers made at Wallsend By whom made North Eastern Mar. E. Coy Ltd Boiler No. 2663 when made 1928
 Registered Horse Power Owners Watts Watts & Coy Ltd. Port belonging to
 Nom. Horse Power as per Rule 448 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes
 Trade for which Vessel is intended General Cargo, Ocean going.

ENGINES, &c.—Description of Engines Triple expansion Revs. per minute 63
 Dia. of Cylinders 25 1/2" x 42" x 40" Length of Stroke 48" No. of Cylinders 3 No. of Cranks 3
 Crank shaft, dia. of journals as per Rule 13.49" Crank pin dia. 13 3/4" Crank webs Mid. length breadth 1-11 1/4" Thickness parallel to axis 8 1/2"
as fitted 13.45" Mid. length thickness 8 1/2" shrunk Thickness around eye-hole 6 1/8"

Intermediate Shafts, diameter as per Rule 12.85" Thrust shaft, diameter at collar as per Rule 13.49"
as fitted 12.85" as fitted 13.45"
 Tube Shafts, diameter as per Rule 14.229" Screw Shaft, diameter as per Rule 14.5" Is the tube shaft fitted with a continuous liner yes
as fitted 14.229" as fitted 14.5" screw

Bronze Liners, thickness in way of bushes as per Rule 5.53" Thickness between bushes as per Rule 5.8" Is the after end of the liner made watertight in the propeller boss yes
as fitted 5.53" as fitted 5.8" 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 yes Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft no

Propeller, dia. 17'9" Pitch 18'3" No. of Blades 4 Material Brass whether Movable no Total Developed Surface 100 sq. feet
 Length of Bearing in Stern Bush next to and supporting propeller 5'-5"
 Feed Pumps worked from the Main Engines, No. none Diameter Stroke Can one be overhauled while the other is at work yes
 Bilge Pumps worked from the Main Engines, No. two Diameter 4 1/2" Stroke 26" Can one be overhauled while the other is at work yes

Feed Pumps { No. and size 2 Main 9 1/2" x 11 1/2" x 10" Pumps connected to the { No. and size 2 @ 9" x 11" x 10"
 { How driven Steam Main Bilge Line { How driven Steam
 Ballast Pumps, No. and size 2 @ 9" x 11" x 10" Lubricating Oil Pumps, including Spare Pump, No. and size none
 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" dia 1 @ 2 1/2" Tunnel well

In Holds, &c. no 1-2 @ 3" dia ; no 2 @ 3 1/2" dia ; no 3 @ 3" dia ; no 4 @ 3" dia
 Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 @ 9" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 5"
 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 Both
 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 Food hold bilge suction How are they protected Wood limbers
 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 top platform

MAIN BOILERS, &c.—(Letter for record S.) Total Heating Surface of Boilers 1926. #
 Is Forced Draft fitted no No. and Description of Boilers Three single ended Working Pressure 185 lbs
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? yes 3SB.

IS A DONKEY BOILER FITTED? no If so, is a report now forwarded? yes
 PLANS. Are approved plans forwarded herewith for Shafting no Main Boilers yes Auxiliary Boilers yes Donkey Boilers yes
 Superheaters none General Pumping Arrangements yes Oil fuel Burning Piping Arrangements yes

SPARE GEAR. State the articles supplied:— 1 Propeller shaft, 1 cast iron propeller, Two each bolts + nuts for top + bottom ends + main bearings, 1 set coupling bolts + nuts, 1 valve spindle, 1 Bolt and bearing, 1 pair top end bearings, 1 section L + C packing springs for each piston, 1 set valves for feed pumps, bilge pumps ballast pumps + air pumps. 1 set check valve lids, 1 spring for safety + relief valves of each size, quantity fastened bolts nuts + iron.

The foregoing is a correct description.
 THE NORTH EASTERN MARINE ENGINEERING CO., LTD.
Bluesbell Allen
 SECRETARY

Manufacturer.



If not, state whether, and when, one will be sent? Yes
 Is a Report also sent on the Hull of the Ship? Yes
 NOTE.—The words which do not apply should be deleted.

1928
 During progress of work in shops -- Jan 27. 30. Feb. 6. 7. 8. 15. 20. 23. Mar. 5. 6. 7. 15. 20. 21. 23. 28. Apr. 4. 11. 12.
 Dates of Survey while building During erection on board vessel --- 17. 18. 19. 23. 25. 26. May 1. 2. 4. 7. 11. 15. 18. 21. 24. June 4. 5. 6. 8. 13. 14. 15. 19. 21.
 July 3. 4. 9. 11. 13. 17. 19. 24. 25. 27. 30. Aug. 3. 9. 10.
 Total No. of visits 57.

Dates of Examination of principal parts—Cylinders 12-11-28 Slides 14-11-28 Covers 28-3-28
 Pistons 28-3-28 Piston Rods 14-11-28 Connecting rods 28-3-28
 Crank shaft 23-11-28 Thrust shaft 18-11-28 Intermediate shafts 25-4-28
 Tube shaft ✓ Screw shaft 1-5-28 & 11-5-28 Propeller 26-11-28
 Stern tube 15-5-28 Engine and boiler seatings 24-6-28 Engines holding down bolts 27-11-28
 Completion of fitting sea connections 22-5-28
 Completion of pumping arrangements 3-8-28 Boilers fixed 24-11-28 Engines tried under steam 3-8-28
 Main boiler safety valves adjusted 31-28 & Thickness of adjusting washers CR. 1/32" 5 3/8; SR. P 1/32" 5 9/32; P Bl. P 3/8 5/8
 Crank shaft material A Steel Identification Mark 2663 WTB Thrust shaft material A Steel Identification Mark 149 WTB
 Intermediate shafts, material A Steel Identification Marks 21, 132, 1066, 27-28-35-36 Tube shaft, material ✓ Identification Mark ✓
 Screw shaft, material A Steel Identification Mark 114 & 132 WTB Steam Pipes, material P.D. Steel Test pressure 555 lbs Date of Test 30-11-28
 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 ✓

General Remarks (State quality of workmanship, opinions as to class, &c.)
 The Machinery of this vessel has been built under Special Survey. Materials & Workmanship good. Hydraulic tests satisfactory. The whole of the machinery is efficiently installed & fixed in the vessel and was tried under steam and is in good & safe working condition and eligible in my opinion to be classed and have records. ✕ L.M.C. 8-28. Sail Shaft. C.L. Elect St. in the Register Book.

It is submitted that this vessel is eligible for classed
THE RECORD. L.M.C. 8-28 CL.

W. H. Bates
 Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ 5 : 0 0
 Special ... £ 92 : 4 0
 Donkey Boiler Fee ... £ ✓ :
 Travelling Expenses (if any) £ ✓ :
 When applied for, 15 AUG 1928
 When received, 16.8.28

Committee's Minute FRI. 24 AUG 1928
 Assigned L.M.C. 8-28 CL

in duplicate
 Certified to be sent to NEWCASTLE-ON-TYNE
 The Surveyors are requested not to write on or below the space for Committee's Minute.

