

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 20 MAY 1925

Date of writing Report 19 When handed in at Local Office 27/5/1925 Port of NEWCASTLE-ON-TYNE

No. in Survey held at North Shields Date, First Survey 23<sup>rd</sup> Oct 1919 Last Survey 19<sup>th</sup> May 1925  
 Reg. Book. on the Steel. Sc. S. "Northgate." (Number of Visits 44)

Built at Hebburn-on-Tyne By whom built Messrs Hawthorn Leslie & Co Ltd Yard No. 539 Tons { Gross 425.30  
 Net 154.60  
 Engines made at North Shields By whom made The Shields Eng. & Dry Dock Co Ltd Engine No. 358. when made 1920  
 Boilers made at West Hartlepool. By whom made W. Central Marine Engine Works Boiler No. R. 296 when made 1920.  
 Registered Horse Power Owners Messrs. Pease & Partners Port belonging to Stockton  
 Nom. Horse Power as per Rule 48. Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no  
 Trade for which Vessel is intended Ocean going

ENGINES, &c.—Description of Engines Steam Reciprocating Vertical Compound Revs. per minute 110.

Dia. of Cylinders 17" - 36" Length of Stroke 27" No. of Cylinders 2 No. of Cranks 2  
 Crank shaft, dia. of journals as per Rule 4.526" as fitted 4.45" Crank pin dia. 4.45" Crank webs Mid. length breadth 14 3/4" Thickness parallel to axis 3 3/8" Journal 3 3/8"  
 Intermediate Shafts, diameter as per Rule 6.89" as fitted Thrust shaft, diameter at collars as per Rule 4.526" as fitted 4.45"  
 Tube Shafts, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 4.869" as fitted 8" Is the screw shaft fitted with a continuous liner? Yes.  
 Bronze Liners, thickness in way of bushes as per Rule 1/2" as fitted Thickness between bushes as per Rule 1/2" as fitted 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 continuous? 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. Length of Bearing in Stern Bush next to and supporting propeller 36"  
 Propeller, dia. 9' 3" Pitch 10' 6" No. of Blades 4 Material C. IRON whether Movable no Total Developed Surface 32 sq. feet  
 Feed Pumps worked from the Main Engines, No. 2 Diameter 2 1/2" Stroke 16" Can one be overhauled while the other is at work? Yes.  
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 2 1/2" Stroke 16" Can one be overhauled while the other is at work? Yes.  
 Feed Pumps { No. and size One: 6" x 4" x 6" Pumps connected to the { No. and size One: 6" x 6" x 6"  
 How driven Direct driven (Steam) Main Bilge Line How driven Direct driven (Steam)  
 Ballast Pumps, No. and size One: 6" x 6" x 6" Lubricating Oil Pumps, including Spare Pump, No. and size no.  
 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 1. 3 1/2" Bilge injection: 1. 2 1/2" A.P. & R. 1. 2 1/4" E.R. 2. 2 1/4" Boiler room  
 In Holds, &c. 2: 2 1/4"

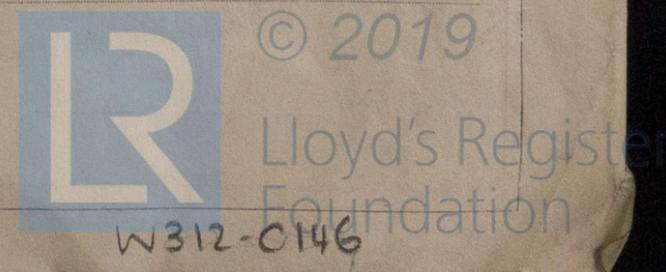
Main Water Circulating Pump Direct Bilge Suctions, No. and size 1. 3 1/2" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1. 2 1/2" x 1. 2 1/4" Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes? Yes.  
 Are the Bilge Suctions in the Machinery 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 are carried through the bunkers? Bilge & Ballast Pipes. How are they protected? Wooden battens.  
 What pipes pass through the deep tanks? 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? Yes.

MAIN BOILERS, &c.—(Letter for record ) Total Heating Surface of Boilers 1468 sq. ft. 130 lbs.  
 Is Forced Draft fitted no No. and Description of Boilers 1. (S.E.) Steel Boiler Working Pressure 135 lbs.  
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes.  
 IS A DONKEY BOILER FITTED? no If so, is a report now forwarded? Yes.  
 PLANS. Are approved plans forwarded herewith for Shafting? Yes. Main Boilers REPORT 15895 Auxiliary Boilers? Yes. Donkey Boilers? Yes.  
 Superheaters? Yes. General Pumping Arrangements? Yes. Oil fuel Burning Piping Arrangements? Yes.

SPARE GEAR. State the articles supplied:—  
 1. Propeller. Solid. C. Iron 1 Set fed & bilge pump valves & seats  
 2 Main Bearing bolts  
 2 Top End Bolts  
 2 Bottom End Bolts  
 1 Set Coupling Bolts  
 6 piston bolts & nuts  
 Gauging glasses, bolts assorted, etc

The foregoing is a correct description,  
THE SHIELDS ENGINEERING & DRY DOCK CO., LIMITED.

J. G. Turnbull, Manufacturer.



1919 1920  
 During progress of work in shops -- Oct. 23. Dec. 22. Jan. 24. Feb. 12. 23. Mar. 10. Apr. 16. 22. May 3. 10. 14. 18. 27. June 5. 14. July 9.  
 20. 29. Aug. 11. Sep. 8. 17. 27. Oct. 4. 14. 19. 22. 26. Nov. 2. 9. 19. Feb. 26. Mar. 13. 31. Apr. 7. 15.  
 21. 23. 27. 30. May 5. 7. 19.  
 During erection on board vessel --  
 Total No. of visits **44**

Dates of Examination of principal parts—Cylinders 3. 6. 20. 18. 5. 20. 18. 5. 24 Slides 17. 9. 20 Covers 16. 7. 20.  
 Pistons 16. 4. 20. 16. 7. 20 Piston Rods 22. 4. 20. 14. 5. 20 Connecting rods 22. 4. 20.  
 Crank shaft 16. 4. 20 Thrust shaft 1. 9. 20 Intermediate shafts ✓  
 Tube shaft ✓ Screw shaft 14. 6. 20 Propeller 20. 7. 20.  
 Stern tube 20. 7. 20 Engine and boiler seatings 24. 4. 25 Engines holding down bolts 23. 4. 25.  
 Completion of pumping arrangements 4. 5. 25 Boilers fixed 27. 4. 25 Engines tried under steam 4. 5. 25.  
 Main boiler safety valves adjusted 4. 5. 25 Thickness of adjusting washers Stan. 5/16" Port. 3/8" B.  
 Crank shaft material Scrap iron Identification Mark 5043. N. 16. 4. 20. W.C. Thrust shaft material Scrap Iron Identification Mark 5339. N. 1. 9. 20.  
 Intermediate shafts, material ✓ Identification Marks ✓ Tube shaft, material ✓ Identification Mark ✓  
 Screw shaft, material Identification Mark 5043. 14. 6. 20. W.C. Steam Pipes, material Copper. Test pressure 260 lb. Date of Test 30. 4.  
 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 ✓ Branstone. Eng. N. 35  
 Is this machinery duplicate of a previous case **Yes** If so, state name of vessel Mercom Thomas. " N. 35

**General Remarks** (State quality of workmanship, opinions as to class, &c.)  
 This vessel's Machinery has been examined during construction and the material and workmanship are good, and in accordance with the Requirements of the Rules, and approved plans.  
 On completion it was tried under steam with satisfactory results when the safety valves were adjusted to the working pressure.  
 It is therefore eligible in our opinion to be classed with the notation of **L.M.C. 5. 25.** in the Register Book.

It is submitted that this vessel is eligible for **THE RECORD. + LMC 5. 25. CL.**

Made 1925

J.W.D. 28/5/25  
 P.P.R.

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

The amount of Entry Fee ...	£ 2. : 0.	When applied for,	
Special Less. Boilers .....	£ 14 : 12.	23/5/19 25	Y.R. Morrison & Manie Bolton
Donkey Boiler Fee ...	£ : :	When received,	
Travelling Expenses (if any) £	: :	28/5/25	Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **WED. 3 JUN 1925**  
 Assigned + L.M.C. 5. 25 C.L.