

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office SEP 18 1937

Date of writing Report 13<sup>th</sup> Sept., 1937. When handed in at Local Office 15<sup>th</sup> Sept., 1937 Port of West Hartlepool

No. in Survey held at Hartlepool Date, First Survey 31<sup>st</sup> March, 1937 Last Survey 12<sup>th</sup> September, 1937.

Reg. Book. 39404 on the Steel Screw Steamer "NORTHLEIGH" (Number of Visits 82) Tons { Gross 5450 Net 3200

Built at Sunderland By whom built W. Pickersgill Sons Ltd Yard No. 237 When built 1937

Engines made at Hartlepool By whom made Richardsons, Westgarth & Co. Engine No. H2686 When made 1937

Boilers made at Hartlepool By whom made Richardsons, Westgarth & Co. Boilers Nos. H.2686 main H.2686 aux. When made 1937

Registered Horse Power Owners W. J. Tatam Ltd Port belonging to London

Nom. Horse Power as per Rule 502 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted Yes

Trade for which Vessel is intended Ocean going

ENGINES, &c.—Description of Engines Triple Expansion inverted direct acting surface condensing Revs. per minute 59

Dia. of Cylinders 24" 40" 69" Length of Stroke 48" No. of Cylinders 3 No. of Cranks 3

Crank shaft, dia. of journals as per Rule 13.82 as fitted 14" Crank pin dia. 14 1/2" Crank webs Mid. length breadth 20 1/2" Mid. length thickness 8 3/4" Thickness parallel to axis 8 3/4" Thickness around eye-hole 6 1/8"

Intermediate Shafts, diameter as per Rule 13.16" as fitted 13.25" Thrust shaft, diameter at collars as per Rule 13.8" as fitted 14"

Tube Shafts, diameter as per Rule 14.66" as fitted 14.75" Is the screw shaft fitted with a continuous liner? Yes

Bronze Liners, thickness in way of bushes as per Rule 75" as fitted 75" Thickness between bushes as per Rule 9/16" as fitted 9/16" 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? Yes

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

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 aft? No

Propeller, dia. 18'0" Pitch 18'6" No. of Blades 4 Material Bronze whether Moveable No. Total Developed Surface 107 sq. feet

Red Pumps worked from the Main Engines, No. 2 Diameter 4" Stroke 27" Can one be overhauled while the other is at work? Yes

Bilge Pumps worked from the Main Engines, No. 2 Diameter 4" Stroke 27" Can one be overhauled while the other is at work? Yes

Feed Pumps { No. and size Two 9 1/2" x 7" x 21" How driven Steam Pumps connected to the Main Bilge Line { No. and size Two 4" x 27" stroke How driven main engines. One 9" x 11" x 10" Steam

Ballast Pumps, No. and size One 9" x 11" x 10" Lubricating Oil Pumps, including Spare Pump, No. and size

Are two independent means arranged for circulating water through the Oil Cooler? Yes

Bilge Pumps;—In Engine and Boiler Room 1-3 Engine Room port - 2-3" Boiler Room 1-2" Dry Tank 1-2 1/2" Engine Room direct Star

Pump Room In Holds, &c. No 1 Hold 2-3" No 2 Hold 2-3 1/2" No 2 A Hold 2-2 1/2" Tunnel 1-4" No 3 Hold 2-3" Tunnel Well 1-2 1/2" No 4 Hold 2-3"

Main Water Circulating Pump Direct Bilge Suctions, No. and size One 7 1/2" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-5" Star Bilge

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 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? — How are they protected? —

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 upper deck.

MAIN BOILERS, &c.—(Letter for record S.) Total Heating Surface of Boilers 4,225 sq. ft.

Forced Draft fitted Yes No. and Description of Boilers 2 Main & One Auxiliary Working Pressure 220 lbs.

IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes

IS A DONKEY BOILER FITTED? No. If so, is a report now forwarded? Yes

Is the donkey boiler intended to be used for domestic purposes only? Yes

PLANS. Are approved plans forwarded herewith for Shafting No. 3-3-37 Main Boilers No. 27-1-37 Auxiliary Boilers No. 27-1-37 Donkey Boilers

Preheaters No. 22-4-37 General Pumping Arrangements No. 11-3-37 Oil fuel Burning Piping Arrangements

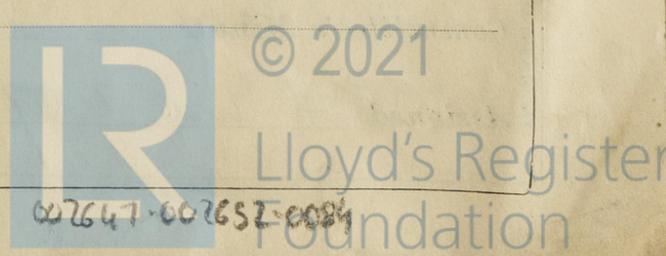
SPARE GEAR.

Is the spare gear required by the Rules been supplied? Yes

What is the principal additional spare gear supplied? One propeller shaft.

The foregoing is a correct description.  
For RICHARDSONS, WESTGARTH & Co. LIMITED.  
W. E. Norridge  
DIRECTOR

Manufacturer.



1937. MAR. 31. APR. 5. 8. 9. 13. 15. 16. 20. 21. 25. 28. 30. MAY. 3. 6. 7. 10. 11. 14. 17. 19. 20. 21. 24. 28. 31. JUNE. 1. 4. 7. 8. 10. 11. 14.  
 During progress of work in shops - - 16. 17. 21. 22. 23. 24. 28. 29. 30. JULY. 1. 2. 5. 6. 7. 8. 9. 12. 13. 14. 15. 16. 17. 19. 20. 25. 27. 28. 30. AUG. 5. 9. 11. 13. 16. 17. 20. 21. 22.  
 Dates of Survey while building { During erection on board vessel - - - } 1937. AUG. 10. 12. 18. 24. 30. SEPT. 3. 9. 11. 12.  
 Total No. of visits 82

Dates of Examination of principal parts—Cylinders { 21-4-37. 1-6-37 } Slides 13-7-37. Covers 13-7-37.  
 Pistons 20-7-37 Piston Rods 20-7-37 Connecting rods 28-4-37. 31-5-37. 28-7-37.  
 Crank shaft { 8-4-37. 19-5-37. 21-5-37 } Thrust shaft 31-3-37. 15-4-37. 17-4-37. Intermediate shafts 13-4-37.  
 Tube shaft ✓ Screw shaft 20-8-37. 7-6-37. 17-7-37. 30-7-37. Propeller 27-7-37.  
 Stern tube 1-6-37. Engine and boiler seatings 10-8-37. Engines holding down bolts 24-8-37.  
 Completion of fitting sea connections 4-6-37.  
 Completion of pumping arrangements 3-9-37 Boilers fixed 12-8-37. Engines tried under steam 3-9-37. 12-9-37.  
 Main boiler safety valves adjusted 3-9-37. Thickness of adjusting washers Pat 37r. 5 5/16. Cenho 37r. 7/16 5 3/16. Stan 37r. 7/32 5 7/16.  
 Crank shaft material steel. Identification Mark 416. F.A.S. 27-5-37 Thrust shaft material Spt. 1/4" steel. Identification Mark 7049 30.  
 Intermediate shafts, material steel. Identification Marks 7049 30. F.A.S. 30-7-37 Tube shaft, material ✓ Identification Mark ✓  
 Screw shaft, material steel Identification Mark 7049 30. F.A.S. 30-7-37 Steam Pipes, material steel Test pressure 660 lbs. Date of Test 5-8-37  
 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 ✓  
 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 have been constructed under Special Survey and in accordance with the approved plans. Upon completion and after installation on board the vessel they were examined under full working conditions and found satisfactory. The materials and workmanship have been found good. It is Recommended that the machinery of this vessel be classed in the Register Book with notations + LMC 9, 37. Spt. F.D. C.L.

The amount of Entry Fee ... £ 6 : 0 : } When applied for,  
 Special ... £ 100 : 2 : } 17<sup>th</sup> Sept. 1937  
 Donkey Boiler Fee ... £ : : }  
 Travelling Expenses (if any) £ : : } When received,  
 24.9.37 29/9

J. Brooke Smith  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 1 OCT 1937  
 Assigned + LMC 9.37 Spt F.D. C.L.

