

## 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)  
 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. Jatem 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

GINES, &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"  
 Main Shafts, diameter as per Rule 14.66" as fitted 14.75" Is the tubo 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 1/6" as fitted 9 1/6" 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 yes  
 aft no If so, state type yes Length of Bearing in Stern Bush next to and supporting propeller 4 11/4"  
 Propeller, dia. 18'0" Pitch 18'6" No. of Blades 4 Material Bronze whether Moveable no Total Developed Surface 107 sq. feet  
 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  
 No. and size Two. 9 1/2" x 7" x 21" Pumps connected to the Main Bilge Line How driven main engines.  
 How driven steam One. 9" x 11" x 10" Lubricating Oil Pumps, including Spare Pump, No. and size yes  
 Main Bilge Line One. 9" x 11" x 10" Suctions, connected to both Main Bilge Pumps and Auxiliary  
 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 1-4" No.3 Hold 2-3" Tunnel Well 1-2 1/2" 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.

41IN 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  
 the donkey boiler intended to be used for domestic purposes only

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 ✓  
 (If not state date of approval)  
 Superheaters 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 the principal additional spare gear supplied One propeller shaft.

The foregoing is a correct description.

For RICHARDSONS, WESTGARTH &amp; Co. LIMITED.

W. E. Vornidge

DIRECTOR

Manufacturer.



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Dates of Examination of principal parts—Cylinders { 21-4-37. 1-6-37  
7-6-37. 23-6-37. 13-7-37 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 21-3-37. 15-4-37. 17-4-37. Intermediate shafts 13-4-37.  
17-5-37. 16-6-37.

Tube shaft ✓ Screw shaft 20-5-37. 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 B7r. 1/16" S 7/16" Cent B17r. 1/16" S 7/16" Stan B17r. 1/16" S 7/16" P 11/32" S 7/16"

Crank shaft material steel. Identification Mark 416. F.A.S. 27-5-37 Thrust shaft material steel. Identification Mark 7049 30-7-37

Intermediate shafts, material steel. Identification Marks 7049 30-7-37 F.A.S. Tube shaft, material ✓ Identification Mark ✓

Screw shaft, material steel Identification Mark 7049 30-7-37 F.A.S. 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. ✓

*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. Spl. 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	... £	:	:	:	:	When received,
Travelling Expenses (if any)	£	:	:	:	:	24.9 1937

J. Brooke Smith

*Engineer Surveyor to Lloyd's Register of Shipping.*

## Committee's Minute

FRI 1 OCT 1937

Assigned + Inc 9.37 Spc FD OK.

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