

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Date of writing Report 13. 8. 1927 When handed in at Local Office 13. 8. 1927 Port of MIDDLESBROUGH  
 Received at London Office 23 AUG 1927  
 No. in Survey held at MIDDLESBROUGH Date, First Survey 23-3-27 Last Survey 12. 8. 1927  
 Reg. Book. on the S.S. "OTTERHOUND" (Number of Visits 39)  
 Built at Naverton Hill By whom built Furness S.B. Co Yard No. 121 Tons Gross 860  
 Engines made at Middlesbrough By whom made Richardsons, Westgarth & Co Engine No. 2570 when made 1927  
 Boilers made at do. By whom made do. Boiler No. 2570 when made 1927  
 Registered Horse Power \_\_\_\_\_ Owners Coastal Tankers Ltd. Port belonging to LONDON  
 Nom. Horse Power as per Rule 147.5 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes  
 Trade for which Vessel is intended Coastal Oil Carrying

**ENGINES, &c.**—Description of Engines Triple Expansion  
 Dia. of Cylinders 16" 27" 44" Length of Stroke 30 No. of Cylinders 3 Revs. per minute 87  
 Crank shaft, dia. of journals as per Rule 8.38 as fitted 8 3/4" Crank pin dia. 8 3/4" Crank webs Mid. length breadth 12 1/2" No. of Cranks 3  
 as fitted 8 3/4" Mid. length thickness 5 1/2" Thickness parallel to axis 5 1/2"  
 Intermediate Shafts, diameter as per Rule 4.98 as fitted \_\_\_\_\_ Thrust shaft, diameter at collars as per Rule 8.38 as fitted 8 3/4"  
 Tube Shafts, diameter as per Rule \_\_\_\_\_ as fitted \_\_\_\_\_ Screw Shaft, diameter as per Rule 8.92 as fitted 9 1/2" Is the tube shaft fitted with a continuous liner Yes  
 as fitted \_\_\_\_\_ as fitted \_\_\_\_\_ Is the screw shaft fitted with a continuous liner Yes  
 Bronze Liners, thickness in way of bushes as per Rule 9/16" as fitted 5/8" Thickness between bushes as per Rule \_\_\_\_\_ 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 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 flapped or protected between the liners Yes Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft Yes  
 Propeller, dia. 11'-3" Pitch 12'-0" No. of Blades 4 Material C.I. whether Movable No. Total Developed Surface 43 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 1-7" x 5 1/2" x 12" G.S. Simplex } Pump connected to the } No. and size 1-6 x 6 1/2 x 6 Duplex }  
 } How driven Steam } Main Bilge Line } How driven Steam }  
 Ballast Pumps } No. and size 1-6 x 6 1/2 x 6 Duplex } Lubricating Oil Pumps, including Spare Pump, No. and size Yes  
 Are two independent means arranged for circulating water through the Oil Cooler Yes  
 Bilge Pumps;—In Engine and Boiler Room 5-2 1/2" Suctions, connected to both Main Bilge Pumps and Auxiliary  
 In Holds, &c. 1-2 1/2" in Cofferdam; 1-2 1/2" in Pump Room; 1-2" in Fore Hold.  
(To ballast pump) (To Forward Ballast pump)

**Main Water Circulating Pump Direct Bilge Suctions, No. and size** 1-4 1/2" **Independent Power Pump Direct Suctions to the Engine Room Bilges,**  
 No. and size 1-3 1/2" Are all the Bilge Suction Pipes in holds and 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 at w/l.  
 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 Cofferdam Bilge Suction How are they protected Yes  
 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 \_\_\_\_\_

**MAIN BOILERS, &c.**—(Letter for record S.) Total Heating Surface of Boilers 2186 sq. ft.  
 Is Forced Draft fitted Yes No. and Description of Boilers 1-S.E. Marine 150 Working Pressure 180 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 Yes Auxiliary Boilers Yes Donkey Boilers Yes  
 Superheaters Yes General Pumping Arrangements Yes Oil fuel Burning Piping Arrangements Yes

**SPARE GEAR.** State the articles supplied:— As per Rules + I.C.S. Propeller; 1 set air pump valves; 1 set Ballast Pump Valves; 1 safety valve spring; 1 main check valve; 1 donkey check valve; 1 set circulating pump valves; 10 condenser tubes; 10 boiler tubes; 12 condenser ferrules.

The foregoing is a correct description,  
 For RICHARDSONS, WESTGARTH & Co. LIMITED

*[Signature]*  
 MANAGING DIRECTOR.



1927  
 Mar 23-26-28. Apr 1-6-20-27. May 5-16-19-24-25. Jun 1-8-15-21-24-28-30. Jul 6-8-9-10.

Dates of Survey while building  
 During progress of work in shops - - 12.14.  
 During erection on board vessel - - -  
 Total No. of visits 39.

Dates of Examination of principal parts—Cylinders 19.5.27. Slides 1.6.27. Covers 27.4.27  
 Pistons 27.4.27. Piston Rods 27.4.27. Connecting rods 27.4.27.  
 Crank shaft 16.5.27. Thrust shaft 6.7.27. Intermediate shafts ✓  
 Tube shaft ✓. Screw shaft 8.7.27. Propeller 6.7.27.  
 Stern tube 9.7.27. Engine and boiler seatings 14.7.27. Engines holding down bolts 2.8.27.  
 Completion of fitting sea connections 12.7.27.  
 Completion of pumping arrangements 4.8.27. Boilers fixed 2.8.27. Engines tried under steam 12.8.27.  
 Main boiler safety valves adjusted 8.8.27. Thickness of adjusting washers S 13/32 P 5/16  
 Crank shaft material Steel Identification Mark LLOYDS No 5396 27.4.27 R.D.S. Thrust shaft material Steel Identification Mark LLOYDS No 5396 6.7.27 P.T.B.  
 Intermediate shafts, material ✓ Identification Marks ✓ Tube shaft, material ✓ Identification Mark ✓  
 Screw shaft, material Steel Identification Mark LLOYDS No 5396 8.7.27 P.T.B. Steam Pipes, material Copper Test pressure 360lbs. Date of Test 27.7.27.  
 Is an installation fitted for burning oil fuel Yes. ✓ Is the flash point of the oil to be used over 150°F. Yes.  
 Have the requirements of the Rules for carrying and burning oil fuel been complied with Yes. ✓  
 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 materials and workmanship are good. This machinery has been built under special survey, securely fitted aboard and tested at sea with satisfactory results and is, in my opinion, suitable for classification with record + L.M.C. 8.27.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 8.27 C.L. F.D. Fitted for oil fuel 8.27 J.P. above 150°F.

Signature: J.P. 24/8/27

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 ... £ 3-0-0 When applied for, 22.8.27  
 Special ... £ 37-0-0  
 Donkey Boiler Fee ... £ : :  
 Travelling Expenses (if any) £ : : 26.8.27

Signature: P. J. McA. Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 2 SEP 1927  
 Assigned Thure 8.27 J.D. C.L. Fitted for oil fuel 8.27 J.P. above 150°F