

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

Date of writing Report 13/9/1937 When handed in at Local Office 15/9/1937 Port of West Hartlepool  
 No. in Survey held at West Hartlepool Date, First Survey 25/9/36 Last Survey 8/9/1937  
 Reg. Book. on the Single screw steamer "BELGRAVIAN" (Number of Visits 105) Tons Gross 3136 Net 1401  
 Built at West Hartlepool By whom built William Gray & Co. Ltd. Yard No. 1073 When built 1937  
 Engines made at West Hartlepool By whom made Central Marine Eng. Works Engine No. 1073 When made 1937  
 Boilers made at West Hartlepool By whom made Central Marine Eng. Works Boiler No. 1073 When made 1937  
 Registered Horse Power 3,500 Owners Ellerman Lines Ltd Port belonging to Liverpool  
 Nom. Horse Power as per Rule 511 Main Engines 174 6 xhausting Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes  
 Trade for which Vessel is intended Ocean going

ENGINES, &c.—Description of Engines Triple expansion with Bauer-Wach exhaust turbine Revs. per minute 90  
 Dia. of Cylinders 23" 38" 65" Length of Stroke 48" No. of Cylinders 3 No. of Cranks 3  
 Crank shaft, dia. of journals as per Rule 13.49" as fitted 14" Crank pin dia. 14" Crank webs Mid. length breadth 20" Thickness parallel to axis 85/8" shrunk  
 Intermediate Shafts, diameter as per Rule 13.09" as fitted 15.25" Thrust shaft, diameter at collars as per Rule 13.74" as fitted 14.25"  
 Tube Shafts, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 14.5" as fitted 15.25" Is the shaft fitted with a continuous liner Yes  
 Bronze Liners, thickness in way of bushes as per Rule 74.2" as fitted 81" Thickness between bushes as per Rule 55" as fitted 59" Is the after end of the liner made watertight in the propeller boss 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 Yes  
 Propeller, dia. 17'0" Pitch 17'0" No. of Blades 4 Material Bronze whether Movable Yes Total Developed Surface 88 sq. feet  
 Feed Pumps worked from the Main Engines, No. 2 Diameter 4" Stroke 24" Can one be overhauled while the other is at work Yes  
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 4 1/2" Stroke 24" Can one be overhauled while the other is at work Yes  
 Feed Pumps No. and size Two 10 1/2" x 8" x 22" Pumps connected to the Main Bilge Line No. and size Two 4 1/2" x 24" stroke One 8" x 10 1/2" x 18"  
 How driven Steam Lubricating Oil Pumps, including Spare Pump, No. and size Two 8" x 9" x 18"  
 Ballast Pumps, No. and size One 8" x 10 1/2" x 18" Are two independent means arranged for circulating water through the Oil Cooler Yes  
 Bilge Pumps;—In Engine and Boiler Room Strokehold 2.3" Engine room 1.3" Diesel 1.4 1/2" Drain tank off holdam. 1.2"  
 In Pump Room In Holds, &c. No 1 hold 2.2 1/2" No 2 hold 2.3" No 3 hold 2.3"  
 Cross bunker 2.3" No 4 hold 2.3" No 5 hold 3.2" Tunnel well 1.2 1/2"  
 Main Water Circulating Pump Direct Bilge Suctions, No. and size 1. 12" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1. 4 1/2"  
 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 lead 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 none 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 7770 sq. ft.  
 Is Forced Draft fitted Yes No. and Description of Boilers Three single ended Working Pressure 225 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  
 PLANS. Are approved plans forwarded herewith for Shafting Yes Main Boilers Yes Auxiliary Boilers Yes Donkey Boilers Yes  
 (If not state date of approval)  
 Superheaters Yes General Pumping Arrangements Yes Oil fuel Burning Piping Arrangements Yes  
 SPARE GEAR.  
 Has the spare gear required by the Rules been supplied Yes  
 State the principal additional spare gear supplied



1026 SEPT. 25 NOV. 5-11 DEC. 9-15-29-30-31 1937 JAN. 4-8-13-18-22-27 FEB. 1-3-4-8-16-19-25 MAR. 1-5-9-15-17-19-24 APR. 1-2-5-6-7-8-9  
 15-16-19-21-22-24-27 MAY. 1-4-5-6-7-11-13-19-20-24 JUNE 7-8-9-11-14-16-18-21-22-24-29-30 JULY 6-7-8-9-12-13-14-15-19-25-30 AUG. 10-12-13-14-15-19-25-30  
 1937 APR. 26 MAY. 3-13-19-24 JUNE 11-15-17-23-28-30 JULY 1-8-12-19-25-30 AUG. 9-13-18 SEPT. 2-3-8  
 Total No. of visits **105**

Dates of Examination of principal parts—Cylinders 2-37. 15-3-37. 24-4-37. Slides 24-4-37. Covers 24-4-37.  
 Pistons 15-3-37. Piston Rods 1-4-37. Connecting rods 25-9-36. 8-2-37. 13-5-37.  
 Crank shaft 16-1-37. 19-2-37. 1-4-37. 23-4-37. Thrust shaft 7-3-37. 23-4-37. 16-6-37. Intermediate shafts 5-3-37. 1-4-37. 16-4-37. 29-4-37.  
 Tube shaft ✓ Screw shaft 1-4-37. 4-5-37. 5-5-37. 6-5-37. Propeller 6-4-37. 5-5-37.  
 Stern tube 19-4-37. Engine and boiler seatings 19-5-37. Engines holding down bolts 1-7-37. 8-7-37.  
 Completion of fitting sea connections 26-4-37.  
 Completion of pumping arrangements 2-9-37. Boilers fixed 28-6-37. Engines tried under steam 2-9-37. 8-9-37.  
 Main boiler safety valves adjusted 2-9-37. Thickness of adjusting washers P 317. C 137. S 37. P 45 3/8. P 5/16. S 1/4. P 45 3/16. S 1/4.  
 Crank shaft material steel. Identification Mark 44568.C.S.P. Thrust shaft material steel. Identification Mark 78732.C.S.P.  
 Intermediate shafts, material steel. Identification Marks 78850-2-4-5.C.S.P. Tube shaft, material ✓ Identification Mark  
 Screw shaft, material steel. Identification Mark 78733.C.S.P. Steam Pipes, material steel. Test pressure 675 lb. Date of Test 20-5-37.  
 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 yes. If so, state name of vessel ss. "Malvernian". W.H.P. Rpt No. 1769

General Remarks (State quality of workmanship, opinions as to class, &c.) This vessel's Engines & Boilers have been built under Special Survey and in accordance with the approved plans. The workmanship & materials have been found good. Upon completion they were examined under full working conditions and found satisfactory.

It is Recommended that the machinery be classed in the Register Book with notations of + LMC 9.37. Spt. FD., CL.

The amount of Entry Fee ... £ 6 : 0 :  
 Exhaust Turbine ... £ 100 : 11 :  
 Donkey Boiler Fee ... £ 5 : 16 :  
 Travelling Expenses (if any) £ : :  
 When applied for, 19  
 When received, 12. 10. 37

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

Committee's Minute FRI 24 SEP 1937

Assigned + LMC 9.37  
 Spt FD CL