

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office SEP 18 1937

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)
 Built at West Hartlepool By whom built William Gray & Co. Ltd. Yard No. 1073 Tons Gross 3136
Net 1401
 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 (5) 1746 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 Crank pin dia. 14" Crank webs Mid. length breadth 20" Thickness parallel to axis 8 5/8"
as fitted 14" Mid. length thickness 8 5/8" shrunk Thickness around eye-hole 6"
 Intermediate Shafts, diameter as per Rule 13.09" Thrust shaft, diameter at collars as per Rule 13.74"
as fitted 15.25" as fitted 14.25"
 Tube Shafts, diameter as per Rule Screw Shaft, diameter as per Rule 14.5" Is the tube shaft fitted with a continuous liner yes
as fitted as fitted 15.25" as fitted 15.5"
 Bronze Liners, thickness in way of bushes as per Rule .742" Thickness between bushes as per Rule .55" Is the after end of the liner made watertight in the
as fitted .81" as fitted .59" 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 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 If so, state type Oil Gland Length of Bearing in Stern Bush next to and supporting propeller 5'3"
 Propeller, dia. 17'0" Pitch 17'0" No. of Blades 4 Material Brass 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 { No. and size Two 4 1/2" x 24" stroke } One 8" x 10 1/2" x 18"
 { How driven Steam Main Bilge Line { How driven main engine } steam
 Ballast Pumps, No. and size One 8" x 10 1/2" x 18" Lubricating Oil Pumps, including Spare Pump, No. and size Two 8" x 9" x 18"
 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 Stokehold 2.3" Engine room 1.3" Drisick 1.4 1/2" Drain tank offidam. 1.2"
 In Pump Room 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 to 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 —
 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
 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? —
 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 — Donkey Boilers —
 Superheaters yes General Pumping Arrangements yes Oil fuel Burning Piping Arrangements —

SPARE GEAR.

Has the spare gear required by the Rules been supplied yes
 State the principal additional spare gear supplied —

The foregoing is a correct description.
 FOR THE CENTRAL MARINE ENGINE WORKS,
 (W. Gray & Co. Ltd.)

J. J. Gamm
 GENERAL MANAGER.

Manufacturer.



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 Foundation

Dates of Survey while building
 During progress of work in shops -- 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 13 14 15 19 25 30
 During erection on board vessel --- 19 37 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 1 3/8, C 1 3/8, S 1 3/8, P 4 5/16, S 5/16
 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, 30-7-37
 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 of "Malvernian". WHP 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 :
 Special Exhaust Turbine ... £ 100 : 11 :
 Donkey Boiler Fee ... £ 5 : 16 :
 Travelling Expenses (if any) £ : :
 When applied for, 19 37
 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

