

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Date of writing Report 19 When handed in at Local Office 29-6-1927 Port of Belfast Received at London Office 30 JUN 1927 21 SEP 1927

No. in Survey held at Belfast Date, First Survey 22 March Last Survey 27 June 1927
 Reg. Book. T/S Tug, Lakej (Number of Visits 2)

Built at Greenock By whom built Harland & Wolff Ltd. Yard No. 796 GK When built 1927
 Engines made at Belfast By whom made Harland & Wolff Ltd. Engine No. 796 GK when made 1927
 Boilers made at Belfast By whom made Harland & Wolff Ltd. Boiler No. 796 GK when made 1927

Registered Horse Power Owners P & O Steam Nav Co Ltd Port belonging to Aden
 Nom. Horse Power as per Rule 175 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes
 Trade for which Vessel is intended Ocean-going

ENGINES, &c.—Description of Engines *Inverted triple expansion twin screw*

Dia. of Cylinders 13 1/2" 23 1/2" 36" Length of Stroke 27" No. of Cylinders Six Revs. per minute 120
 Crank shaft, dia. of journals as per Rule 7.19" as fitted 7 3/8" Crank pin dia. 7 3/8" Crank webs Mid. length breadth 11 1/2" Mid. length thickness 4 1/2" Thickness parallel to axis 4 1/8" Thickness around eye-hole 3 1/16"
 Intermediate Shafts, diameter as per Rule 6.85" as fitted Thrust shaft, diameter at collars as per Rule 7.19" as fitted 7 3/8"

Tube Shafts, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 7.64" as fitted 7 3/8" Is the tube screw shaft fitted with a continuous liner Yes
 Bronze Liners, thickness in way of bushes as per Rule .527" as fitted .5" Thickness between bushes as per Rule .395" as fitted .32" 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
 If two liners are fitted, is the shaft lapped or protected between the liners Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft No

Length of Bearing in Stern Bush next to and supporting propeller 35 1/2"
 Propeller, dia. 9'-6" Pitch 10'-6" No. of Blades 3 Material *Bump blades* whether Movable Yes Total Developed Surface 35 sq. feet
 Feed Pumps worked from the Main Engines, No. None Diameter Stroke Can one be overhauled while the other is at work
 Bilge Pumps worked from the Main Engines, No. None Diameter Stroke Can one be overhauled while the other is at work
 Feed Pumps { No. and size *Two 8 1/2" x 6" x 18"* Pumps connected to the { No. and size *Two 5 1/2" x 6" x 15" 6 1/2" x 7" x 15"*
 How driven *Steam* Main Bilge Line How driven *Steam*
 Ballast Pumps, No. and size *One 6 1/2" x 7" x 15"* Lubricating Oil Pumps, including Spare Pump, No. and size
 Are two independent means arranged for circulating water through the Oil Cooler
 Bilge Pumps;—In Engine and Boiler Room *Forward 1-2" After well 1-2"* Suctions, connected to both Main Bilge Pumps and Auxiliary (Oil filters 4-1 1/2" to O.F. pumps)
 In Holds, &c. *Forward in lower store 1-2"*

Main Water Circulating Pump Direct Bilge Suctions, No. and size *One 6"* **Independent Power Pump Direct Suctions to the Engine Room Bilges,**
 No. and size *One 2 1/2"* Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes
 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
 Are all Sea Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the Overboard Discharges above or below the deep water line
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate
 What Pipes pass through the bunkers 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
 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 Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from

MAIN BOILERS, &c.—(Letter for record *S*) Total Heating Surface of Boilers *2470 sq ft*
 Is Forced Draft fitted Yes No. and Description of Boilers *Two P.B. cyl. Mult.* 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?
 PLANS. Are approved plans forwarded herewith for Shafting Main Boilers Yes Auxiliary Boilers Donkey Boilers
 (If not state date of approval) Superheaters General Pumping Arrangements Yes Oil fuel Burning Piping Arrangements
 SPARE GEAR. State the articles supplied:—

The foregoing is a correct description, For HARLAND AND WOLFF, LIMITED.

Deeblech

Manufacturer.



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Lloyd's Register Foundation

1927
 During progress of work in shops -- } 22. 23. 25. 27 = 21
 Dates of Survey while building }
 During erection on board vessel -- }
 Total No. of visits

Dates of Examination of principal parts—Cylinders 4. 5. 27 + 17. 5. 27 Slides 1. 6. 27 Covers 17. 5. 27
 Pistons 1. 6. 27 Piston Rods 6. 6. 27 Connecting rods 17. 5. 27
 Crank shafts 18. 5. 27 Thrust shafts { 18. 5. 27 Intermediate shafts ✓
 Tube shaft ✓ Screw shafts 22. 6. 27 Propellers 21. 6. 27
 Stern tubes 22. 6. 27 Engine and boiler seatings Engines holding down bolts
 Completion of fitting sea connections
 Completion of pumping arrangements Boilers fixed Engines tried under steam
 Main boiler safety valves adjusted Thickness of adjusting washers
 Crank shaft material OS. Engol Steel Identification Mark 5410D. R.L.A. Thrust shaft material OS. Engol Steel Identification Mark 5410D. R.L.A.
 Intermediate shafts, material ✓ Identification Marks ✓ Tube shaft, material Identification Mark ✓
 Screw shaft, material OS. Engol Steel Identification Mark 5410D. R.L.A. Steam Pipes, material Test pressure Date of Test
 Is an installation fitted for burning oil fuel Is the flash point of the oil to be used over 150°F.
 Have the requirements of the Rules for carrying and burning oil fuel 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.)
 This machinery has been constructed under special survey, the materials and workmanship are sound and good. It is eligible, in my opinion for installation on a classed vessel. It has been shipped to Greenock.

The Surveyors are requested not to write on or below the space for Committee's Minute.

The amount of Entry Fee ... £ 3 - - :
 Special ... £ 13. - 15 :
 Charged at Belfast 4/5 fee £ 35 : 0 :
 Travelling Expenses (if any) £ - - - :
 When applied for, 29-6-1927
 When received, 8th August 1927

R. Lee Amess.
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 20 SEP 1927**

TUES. 4 OCT 1927

Assigned See Gen. Rpt. No. 18762 *W.M.*



Date of writing
 No. in Reg. Book.
 Master
 Engines made
 Boilers made a
 Nominal Horse
 MULTITU
 Manufacturers
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