

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

24 SEP 1942

22 SEP 1942

Date of writing Report 19 When handed in at Local Office 19 Port of NEWCASTLE-ON-TYNE
 No. in Survey held at Newcastle on Tyne Date, First Survey 10th Oct. 1941 Last Survey 9th Sept. 1942
 Reg. Book. on the 3/5 EMPIRE REYNOLDS (Number of Visits 85) Tons Gross 8128
Net 4634

Built at Newcastle By whom built Swan, Hunter & Wigham Richardson²⁵ Yard No. 1712 When built 1942-
 Engines made at ditto By whom made ditto Engine No. 1712 When made "
 Boilers made at ditto By whom made ditto Boiler No. 1712 When made "

Registered Horse Power ✓ Owners _____ Port belonging to _____
 Nom. Horse Power as per Rule 629 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 Trade for which Vessel is intended Ocean going. Carrying Petroleum in bulk

ENGINES, &c.—Description of Engines 3 Cyl. Triple Expⁿ. Recip Revs. per minute 84
 Dia. of Cylinders 26¹/₂ + 44 + 73 Length of Stroke 48 No. of Cylinders 3 No. of Cranks 3
 Crank shaft, dia. of journals as per Rule 14.66 Crank pin dia. 15¹/₄ Mid. length breadth ✓ Thickness parallel to axis 9.5625
 as fitted 15¹/₄ Crank webs ✓ shrunk Thickness around eye-hole 57% at journal
 Intermediate Shafts, diameter as per Rule 13.96 Thrust shaft, diameter at collars as per Rule 14.66
 as fitted 14 as fitted 14 3/4 Thickness around eye-hole 267% at crank pins
 Main Shafts, diameter as per Rule ✓ Screw Shaft, diameter as per Rule 15.42 Is the ✓ shaft fitted with a continuous liner ✓
 as fitted _____ as fitted 15¹/₂ Is the ✓ shaft fitted with a continuous liner ✓
 Bronze Liners, thickness in way of bushes as per Rule 24.7/32 Thickness between bushes as per Rule 18.5/32 Is the after end of the liner made watertight in the
 as fitted 25/32 as fitted 23/32 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 In one piece
 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 Light fit
 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 ✓
 aft No If so, state type ✓ Length of Bearing in Stern Bush next to and supporting propeller 62¹/₂
 Propeller, dia. 17'-6" Pitch 14'-6" No. of Blades 4 Material M. Buz whether Moveable No Total Developed Surface 104 sq. feet
 Bilge Pumps worked from the Main Engines, No. None Diameter ✓ Stroke ✓ Can one be overhauled while the other is at work ✓
 Aux. Pumps worked from the Main Engines, No. 2 Diameter 6" Stroke 26" Can one be overhauled while the other is at work Yes
 Dept. Pumps { No. and size 2 of 10² x 8 x 21 Pumps connected to the { No. and size one Ballast 10 x 11 x 10 dup. and 2 Single acting 6 x 26
 How driven Indep^t Steam Main Bilge Line { How driven Indep^t Steam (200 tons/hr) (98 tons/hr total)
 Ballast Pumps, No. and size one 10 x 11 x 10 duplex Lubricating Oil Pumps, including Spare Pump, No. and size ✓ by Main Engines
 Are two independent means arranged for circulating water through the Oil Cooler ✓ Suctions, connected to both Main Bilge Pumps and Auxiliary
 Bilge Pumps;—In Engine and Boiler Room 3 of 3¹/_{2"} and only bilge wells 2 of 2¹/<sub>2" dia.
 Pump Room 2 of 4" in each Pump Rm. In Holds, &c. 2 of 2¹/_{2"} in Fore Hold, 1 of 2" in Pump Rm, 2 of 2" in 7th Store.</sub>

Main Water Circulating Pump Direct Bilge Suctions, No. and size One of 9" dia Independent Power Pump Direct Suctions to the Engine Room Bilges,
 No. and size One of 5" dia on 5th SIDE 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 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 below
 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
 Do all Pipes pass through the bunkers None How are they protected ✓
 Do all pipes pass through the deep tanks None 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 None Is it fitted with a watertight door ✓ worked from ✓
 (machinery aft).

MAIN BOILERS, &c.—(Letter for record S.) Total Heating Surface of Boilers 9555 sq. ft.
 Forced Draft fitted Yes on all 3 Boilers No. and Description of Boilers 3 Single Endd. Working Pressure 220 lbs/sq
 and all 3 Bln. fitted with Superheaters.
 A REPORT ON MAIN BOILERS NOW FORWARDED? Yes
 A DONKEY BOILER FITTED? None 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 Shipping Yes 17/4/41 Main Boilers Yes 11/4/41 Auxiliary Boilers ✓ Donkey Boilers ✓
 (If not state date of approval) Yes 21/5/40 & 30/5/40
 Superheaters General Pumping Arrangements 24/4/41 & 25/7/41 Oil fuel Burning Piping Arrangements
Pumping arrang^t in ER SPARE GEAR.
 Are the spare gear required by the Rules been supplied Yes
 Is the principal additional spare gear supplied 12 gauge glasses; 50 ferrules & 100 packings for Condenser,
6 piston bolts, 4 cam rollers & spindles for HP Valve gear, 1 Valve spindle for HP Valve.
12 plain tubes for Boilers; & for Superheaters 20% of jointing washers, 10% Studs & nuts,
10% header plugs & 2% clamps. etc.

Tons
156
87
628
768
159

15.30.
1.2.3.13
77

The foregoing is a correct description.

G. J. Dewart

Manufacturer.



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Lloyd's Register
Foundation

1941
 6 Oct. 10. 30. Nov. 3. 5. 6. 20. 21. Dec. 12. 23. 31. 1942
 Jan 13. 27. Feb. 4. 9. 12. 20. 24. Mar. 20. Apr. 1. 13. 17. 24.
 May 1. 4. 6. 7. 8. 11. 12. 13. 14. 18. 19. 22. 26. 28. 29. June 1. 2. 3. 4. 5. 8. 9. 10. 12. 16. 17. 18. 1.
 July 1. 2. 3. 10. 17. 20. 21. 23. 24. 27. 28. 29. 31. Aug. 4. 6. 10. 14. 20. 21. 22. 27.
 Sept. 1. 5. 7. 8. 9.
 Total No. of visits 85.

Dates of Examination of principal parts—Cylinders 29/6/42 Slides 20/7/42 Covers 29/6/42
 Pistons 20/7/42 Piston Rods 20/7/42 Connecting rods 20/7/42
 Crank shaft 29/6/42 Thrust shaft 1/7/42 Intermediate shaft 1/7/42
 Tube shaft ✓ Screw shaft 12/6/42 Propeller 12/6/42 + 22/6/42.
 Stern tube 17th + 19th / 6/42 Engine and boiler seatings 19/6/42 ; 11/8/42 Engines holding down bolts 6/8/42
 Completion of fitting sea connections 19/6/42
 Completion of pumping arrangements 31/8/42 Boilers fixed 11/8/42 Engines tried under steam 31/8/42 + 5/9/42
 Main boiler safety valves adjusted 27th + 31st / 8/42 Thickness of adjusting washers Port Blw 5/16 1 1/2 3/4 7/8 7/32 7/32
 Crank shaft material 2. Stl. Identification Mark 10998 HAI 29/6/42 AW. Thrust shaft material 2 Stl. Identification Mark 10998 HAI 310
 Intermediate shaft material 2. Stl. Identification Marks 10998 HAI 309. Tube shaft, material ✓ Identification Mark ✓
 Screw shaft, material 2 Stl. Identification Mark 10998 HAI 308. Steam Pipes, material S.D. Stl. Test pressure 660 lbs. Date of Test 12/5/42
 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 the use of oil as fuel been complied with ✓
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo ✓ 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 not desired
 Is this machinery duplicate of a previous case Yes. If so, state name of vessel 4/5 Empire Garrick
 General Remarks (State quality of workmanship, opinions as to class, &c.) SHANK Yards 1710. No. Rpt No 100587

The machinery of this vessel has been constructed under Special Survey in accordance with the approved plans and the Society's Rules, and the materials + workmanship are good.

The machinery has been efficiently installed on board, tried under working conditions at quay with satisfactory results, and is eligible in my opinion for record + LMC. 9.42, and the notations, 3 SB. Spt F.D 220 lbs. CL.

NEWCASTLE-ON-TYNE
 Certificate to be signed to
 The Surveyors are requested not to write on or below the space for Committee's Minute.

The amount of Entry Fee ... £ 6 : 0 :
 Special + Spec. ... £ 133 : 1 :
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ : :

When applied for, 22 SEP 1942
 When received, 19

A Watt
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 29 SEP 1942
 Assigned f. L.M.C. 9.42
 Fitt. for oil fuel on 22, Ch.

