

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

Date of writing Report 09. 19 When handed in at Local Office 26:12: 19 Port of Glasgow
 No. in Survey held at Reg. Book. 36364 on the S.S. "Empire Bann" Date, First Survey 27:12:40 Last Survey 22:12: 1941
 (Number of Visits 49) Tons ^{Gross} 813 _{Net} 333
 Built at Glasgow By whom built Blythwood S.B. Co. Ltd. Yard No. 67 When built
 Engines made at do. By whom made D. Rowan & Co. Ltd. Engine No. 1080 When made 1941
 Boilers made at do By whom made do Boiler No. 1080 When made 1941
 Registered Horse Power Owners Ministry of War Transport Port belonging to Glasgow
 Nom. Horse Power as per Rule 139. Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Ys.
 Tonnage for which Vessel is intended

ENGINES, &c.—Description of Engines Triple Expansion Revs. per minute
 Dia. of Cylinders 15" 28" 41" Length of Stroke 30" No. of Cylinders 3 No. of Cranks 3
 Crank shaft, dia. of journals as per Rule 8.165" as fitted 8.2" Crank pin dia. 8.2" Crank webs Mid. length breadth 16.5" Thickness parallel to axis 8.3"
 as fitted 8.2" Mid. length thickness 5.5" ^{skrunk} Thickness around eye-hole 14"
 Intermediate Shafts, diameter as per Rule 4.77" as fitted 8.0" Thrust shaft, diameter at collars as per Rule 8.165" as fitted 8.2"
 Tube Shafts, diameter as per Rule 8.67" as fitted 8.8" Is the ^{tube} screw shaft fitted with a continuous liner Ys.
 Screw Shaft, diameter as per Rule 5.56" as fitted 9" Thickness between bushes as per Rule 4.17" as fitted 1.2" Is the after end of the liner made watertight in the propeller boss Ys.
 If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner Ys.
 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 Ys.
 If two liners are fitted, is the shaft lapped or protected between the liners Ys. Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft No. If so, state type
 Length of Bearing in Stern Bush next to and supporting propeller 36"
 Propeller, dia. 10'-9" Pitch 11'-3" No. of Blades 4 Material PI whether Moveable No. Total Developed Surface 41 sq. feet
 Feed Pumps worked from the Main Engines, No. None Diameter 3.2" Stroke 15" Can one be overhauled while the other is at work Ys.
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 3.2" Stroke 15" Can one be overhauled while the other is at work Ys.
 Feed Pumps { No. and size 2 @ 7' x 5' x 12" How driven Steam Pumps connected to the Main Bilge Line { No. and size 1 @ 6.2' x 7' x 15" How driven Steam
 Ballast Pumps, No. and size 2 @ 6.2' 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 - Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room 3 @ 2.2" 1 @ 2"
 In Pump Room 1 @ 3" In Holds, &c.

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 @ 4" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2 @ 3" Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes Ys.
 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 Ys.
 Are all Sea Connections fitted direct on the skin of the ship Ys. 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 Ys. 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 Ys. Are the Blow Off Cocks fitted with a spigot and brass covering plate Ys.
 What Pipes pass through the bunkers Ys. How are they protected Ys.
 What pipes pass through the deep tanks Ys. Have they been tested as per Rule Ys.
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Ys.
 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 Ys. Is the Shaft Tunnel watertight Ys. Is it fitted with a watertight door Ys. worked from Ys.

MAIN BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 2100 sq ft
 Which Boilers are fitted with Forced Draft Main Which Boilers are fitted with Superheaters Ys.
 No. and Description of Boilers 1 Single Ended Working Pressure 190 lbs.
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? Ys.
 IS A DONKEY BOILER FITTED? No. If so, is a report now forwarded? Ys.
 Can the donkey boiler be used for domestic purposes only Ys.

PLANS. Are approved plans forwarded herewith for Shafting Ys. Main Boilers Ys. Auxiliary Boilers - Donkey Boilers -
 (If not state date of approval) Superheaters - General Pumping Arrangements 28. 3. 41 Oil fuel Burning Piping Arrangements 25. 9. 41 (Quality space)
SPARE GEAR.

Has the spare gear required by the Rules been supplied Ys.
 State the principal additional spare gear supplied See List attached.

The foregoing is a correct description.
 For David Rowan & Co. Ltd.
 Archd. W. Grierson Manufacturer.



1940 Dec: 27 (1941) Jan: 23 Apr: 3 16 17 23 24 28 May: 14 19 22 29 June: 2 6 10 13 17 19 24
 During progress of work in shops - - 25 July 1 4 10 14 16 29 Aug: 22 28 29 Sep: 9 15 16 Oct: 1 3 7 9 20 21 Nov: 3 5 6 10 15 26 27
 Dates of Survey while building { During erection on board vessel - - - }
 Dec: 2 10 13 22
 Total No. of visits 49

Dates of Examination of principal parts—Cylinders 2-6-41 Slides 25-6-41 Covers 2-6-41
 Pistons 19-6-41 Piston Rods 19-6-41 Connecting rods 19-6-41
 Crank shaft 6-6-41 Thrust shaft 14-7-41 Intermediate shafts -
 Tube shaft - Screw shaft 29-7-41 Propeller 29-7-41
 Stern tube 1-10-41 Engine and boiler seatings 7-10-41 Engines holding down bolts 6-11-41
 Completion of fitting sea connections 7-10-41
 Completion of pumping arrangements 27-11-41 Boilers fixed 27-11-41 Engines tried under steam 22-12-41
 Main boiler safety valves adjusted 27-11-41 Thickness of adjusting washers $2 \frac{3}{8}$
 Crank shaft material *S.D. Steel* Identification Mark *AJB-6-6-41* Thrust shaft material *S.D. Steel* Identification Mark *J.H.N. 14-7-41*
 Intermediate shafts, material - Identification Marks - Tube shaft, material - Identification Mark -
 Screw shaft, material *S.D. Steel* Identification Mark *AJB-27-7-41* (Steam Pipes, material *S.D. Steel* Test pressure 540 lb. Date of Test 3-11-41.
 Is an installation fitted for burning oil fuel *Y/s*. Is the flash point of the oil to be used over 150°F. *Y/s*.
 Have the requirements of the Rules for the use of oil as fuel been complied with *Y/s*
 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
 Is this machinery duplicate of a previous case If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.)
 This machinery has been built under special licence & in accordance with the Rules. The material & workmanship are good. It has been placed on board & efficiently secured in position and afterwards tried under working conditions with satisfactory results. The conditions of the Specification have been carried out. The machinery of this vessel is eligible, in my opinion, to be entered in the Register Book with a note of + L.M.C. 12-41. Fitted for oil fuel 12-41. F.P. above 150°F. T.S. C.L.

GLASGOW

The amount of Entry Fee ... £ 3 : - : When applied for,
 Special ... £ 34 : 15 : 30 DEC 1941
 Donkey Boiler Fee *Y/s* ... £ 8 : 14 : When received,
 Travelling Expenses (if any) £ : : 19

John Murray for *A.J. Brown & W. Russell*
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 30 DEC 1941

Assigned 7- Dec 12-41
 Fitted for oil fuel 12-41 F.P. above 150°F



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