

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 1 MAR 1945

Date of writing Report 19 22 2 45 When handed in at Local Office 22 2 45 Port of NEWCASTLE-ON-TYNE
No. in Survey held at South Shields Date, First Survey (1944) Feb 28 Last Survey Feb 16 19 45
Reg. Book 39435 on the S.S. EMPIRE RABAU Tons (Gross 7200.83 (Net 5104.81
Built at S. Shields By whom built J. Readhead & Sons Ltd Yard No. 543 When built 1945
Engines made at South Shields By whom made J. Readhead & Sons Ltd Engine No. 543 When made 1945
Boilers made at Barrow-in-Furness By whom made Vickers-Armstrongs Ltd Boiler No. 850 When made 1945
Registered Horse Power Owners Ministry of War Transport Port belonging to S. Shields
Nom. Horse Power as per Rule 510 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
Trade for which vessel is intended General Cargo

ENGINES, &c.—Description of Engines Triple Expansion Revs. per minute 76
Dia. of Cylinders 24 1/2 x 37 x 70 Length of Stroke 40 No. of Cylinders 3 No. of Cranks 3
Crank shaft, dia. of journals as per Rule 14 1/4 as fitted 14 1/4 Crank pin dia. 14 1/4 Crank webs Mid. length breadth 2-4 1/2 Thickness parallel to axis 9-9 1/2
Intermediate Shafts, diameter as per Rule 13.33 as fitted 13 5/8 Thrust shaft, diameter at collars as per Rule 14 as fitted 14 1/4
Tube Shafts, diameter as per Rule 14.06 as fitted 15 1/4 Is the {tube screw} shaft fitted with a continuous liner {Yes
Bronze Liners, thickness in way of bushes as per Rule .765 as fitted .812 Thickness between bushes as per Rule Is the after end of the liner made watertight in the
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
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
at If so, state type Length of Bearing in Stern Bush next to and supporting propeller 5-1
Propeller, dia. 18-2 Pitch 15-46 No. of Blades 4 Material C.I. whether Moveable No Total Developed Surface 98.5 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. 2 Diameter 4 1/2 Stroke 26 Can one be overhauled while the other is at work Yes
Feed Pumps No. and size (2) 7 x 9 1/2 x 21 (1) 7 x 9 1/2 x 21 Pumps connected to the Main Bilge Line No. and size (1) 10 1/2 x 13 x 24 (1) 7 x 9 1/2 x 21
How driven Steam Lubricating Oil Pumps, including Spare Pump, No. and size
Ballast Pumps, No. and size (1) 10 1/2 x 13 x 24 (1) 7 x 9 1/2 x 21 Are two independent means arranged for circulating water through the Oil Cooler
Bilge Pumps:—In Engine and Boiler Room 3-3 dia In Pump Room In Holds, &c. N 1 held 2-3 dia N 2 held 2-3 dia N 3 held 2-3 dia
N 5 held 2-3 dia N 6 held 2-3 dia Tunnel well 1-2 1/2 dia
Main Water Circulating Pump Direct Bilge Suctions, No. and size One 9 dia Independent Power Pump Direct Suctions to the Engine Room Bilges,
No. and size One 5 dia 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 2 inside H.O.T. Yes Are they fitted with Valves or Cocks 13 etc
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
What Pipes pass through the bunkers Bilge How are they protected Wood casings
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 No worked from

MAIN BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 7240 sq ft
Which Boilers are fitted with Forced Draft 3 Main Which Boilers are fitted with Superheaters 3 Main
No. and Description of Boilers 3 Main S.E.M. Working Pressure 220 lb sq in
IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes
IS A DONKEY BOILER FITTED? Yes If so, is a report now forwarded? Yes
Can the donkey boiler be used for domestic purposes only Yes
PLANS. Are approved plans forwarded herewith for Shafting 20-10-43 Main Boilers 11-9-41 Auxiliary Boilers Donkey Boilers
(If not state date of approval)
Superheaters 3 Main S.E.M. General Pumping Arrangements 21-9-44 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 In accordance with specification

The foregoing is a correct description.

H.M. Cartwright.

Manufacturer.

Director.



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Lloyd's Register
Foundation

005353-005357-0103

Dates of Survey while building
During progress of work in shops -- (1944) Feb. 28, Mar. 3, 6, 10, 15, 16, 17, 24, 29, 31, Apr. 6, 11, 12, 13, 14, 17, 18, 19, 27, 28, May 2, 4, 11, 12, 16, 25, 31, June 5, 13, 14, 16, 20, 22, 28, 29, July 4, 6, 31, Aug. 8, 14, 21, 22, 23, 24, 28, 31, Sept. 1, 6, 11, 13, 15, 20, 21, 25, 26, Oct. 4, 5, 6, 10, 13, 16, 20, 23, 25, 28, 30, Nov. 1, 2, 6, 7, 8, 9, 10, 13, 14, 16, 17, 20, 21, 22, 23, 27, 29, 30, Dec. 2, 4, 5, 7, 8, 11, 12, 13, 14, 15, 18, 19, 22, 27, 28, 29 (1945) Jan. 3, 5, 8, 9, 12, 16, 17, 18, 22, 23, 25, 30, Feb. 6, 8, 9, 16

During erection on board vessel --

Total No. of visits 119

Dates of Examination of principal parts - Cylinders 30-11-44 Slides A-12-44 Covers 30-11-44
Pistons 4-12-44 Piston Rods 2-12-44 Connecting rods 2-12-44
Crank shaft 16-10-44 Thrust shaft 20-12-44 Intermediate shafts 20-12-44
Tube shaft ✓ Screw shaft 23-11-44 Propeller 23-11-44
Stern tube 21-11-44 Engine and boiler seatings 22-12-44 Engines holding down bolts 22-1-45
Completion of fitting sea connections 27-11-44
Completion of pumping arrangements 25-1-45 Boilers fixed 22-12-44 Engines tried under steam 20, 29-12-44
Main boiler safety valves adjusted 29-12-44 Thickness of adjusting washers P/P-3/8 C/P-3/8 S/P-3/8
Crank shaft material S.M. Steel Identification Mark 8605 Thrust shaft material S.M. Steel Identification Mark 8827
Intermediate shafts, material S.M. Steel Identification Marks 8820 8831 8829 8832 Tube shaft, material ✓ Identification Mark 23-10-44
Screw shaft, material S.M. Steel Identification Mark 8834 Steam Pipes, material S.S. Steel Test pressure 660 lb. Date of Test 15-10-1944
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 ✓ 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 TYPE P.F.(C)

General Remarks (State quality of workmanship, opinions as to class, &c.)
The machinery of this vessel has been constructed under special survey in accordance with rule requirements & approved plans. Materials & workmanship are good. The machinery was satisfactorily tested on moving & river trials & in my opinion is eligible for classification with records of + L.M.C. 2, 45 F.D.C.L. 3 S.B. (S.P.F.).

The amount of Entry Fee ... £ 6 : 0 : When applied for, 19 FEB 1945
Special ... £ 75 - 7 - 6
Donkey Boiler Fee ... £ ✓ : When received, 19
Travelling Expenses (if any) £ ✓ :

J. A. Matthews
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 23 MAR 1945

Assigned + LMC 245 F.D.C.L. S.P.F.