

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 29 MAR 1943

Date of writing Report 19 ¹⁹ When handed in at Local Office 26 MAR 1943 Port of Sunderland
 No. in Survey held at Sunderland Date, First Survey 3 Mch 42 Last Survey 17 Mch 1943
 Reg. Book. "EMPIRE BEN" (Number of Visits 59)
 on the "EMPIRE BEN" Tons } Gross
 Net
 Built at _____ By whom built _____ Yard No. _____ When built _____
 Engines made at Sunderland By whom made G. Blank (1938) L^d Engine No. 1264 When made 1942.
 Boilers made at Sunderland By whom made G. Blank (1938) L^d Boiler No. 1264 When made 1942.
 Registered Horse Power _____ Owners _____ Port belonging to _____
 Nom. Horse Power as per Rule 183. Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.
 Trade for which Vessel is intended _____

ENGINES, &c.—Description of Engines Triple Expansion Revs. per minute 113.
 Dia. of Cylinders 16 1/2 - 24 - 46 Length of Stroke 30 No. of Cylinders 3 No. of Cranks 3
 Crank shaft, dia. of journals 8.84 as per Rule 8.84 Crank pin dia. 9 3/8 Crank webs Mid. length breadth 14 1/16 Thickness parallel to axis 6
 as fitted 9 1/4 Mid. length thickness 6 Thickness around eye-hole 4 3/16
 Intermediate Shafts, diameter as per Rule 8.45 Thrust shaft, diameter at collars as per Rule 8.84
 as fitted 8 1/2 as fitted 9 1/4
 Tube Shafts, diameter as per Rule _____ Screw Shaft, diameter as per Rule 9.81 Is the tube } shaft fitted with a continuous liner { No liner
 as fitted _____ as fitted 10 1/4 } screw
 Bronze Liners, thickness in way of bushes as per Rule _____ Thickness between bushes as per Rule _____ Is the after end of the liner made watertight in the
 as fitted _____ propeller boss _____ 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
 aft Yes If so, state type Hewark Length of Bearing in Stern Bush next to and supporting propeller 3-5
 Propeller, dia. 11-0 Pitch 11-8 No. of Blades 4 Material C.I. whether Moveable No. Total Developed Surface 46 sq. feet
 Feed Pumps worked from the Main Engines, No. 2 Diameter 3 Stroke 15 Can one be overhauled while the other is at work Yes
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 3 Stroke 15 Can one be overhauled while the other is at work Yes
 Feed Pumps { No. and size 1 - 8" x 5" x 8" Pumps connected to the { No. and size 1 - 8" x 5" x 8" (Aux. Ser.) & Main Engine
 How driven Steam Main Bilge Line { How driven Steam } Trunk Engine
 Ballast Pumps, No. and size None 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 Eng. Rm. 1 @ 2" dia. Tunnel 1 @ 2" dia. Bl. Rm. 1 @ 2" dia & 1 @ 2 1/2" dia.
 In Pump Room _____ In Holds, &c. Accumulation 1 @ 2" dia.

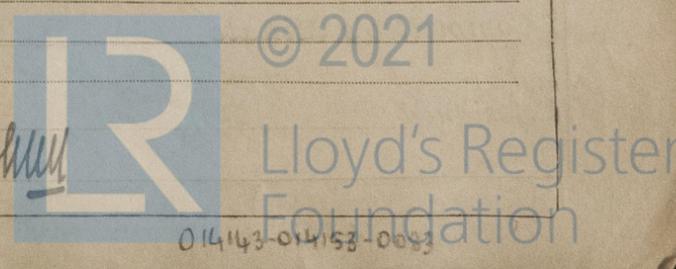
Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 @ 6" Independent Power Pump Direct Suctions to the Engine Room Bilges,
 No. and size 1 @ 2 1/2" & 1 @ 2 1/2" dia. Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes Yes.
 Are the Bilge Suctions in the Machinery 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.
 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 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 _____ Is it fitted with a watertight door _____ worked from _____

MAIN BOILERS, &c.—(Letter for record S.) Total Heating Surface of Boilers 2481 sq
 Which Boilers are fitted with Forced Draft Main Which Boilers are fitted with Superheaters None
 No. and Description of Boilers 1 SB (FD) Working Pressure 200 lbs
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes.
 IS A DONKEY BOILER FITTED? No. If so, is a report now forwarded? _____
 Can the donkey boiler be used for domestic purposes only _____
 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 _____ 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.

A. J. Berry
 Manufacturer & GENERAL MANAGER



1942. *March*, 3, 6, 9, 12, 16, 20, 27. *April*, 1, 2, 9, 14, 27, 28. *May*, 4, 11, 18. *June*, 1, 2, 8, 11, 18, 22, 25, 26, 29, 30. *July*, 7, 9, 20, 21, 23, 28, 30, 31. *Aug.*, 4, 18, 19, 20, 21, 26, 31. *Sep.*, 9, 15, 28. *Oct.*, 30. *Nov.*, 2. *Dec.*, 1.

1943. *Feb.*, 1, 2, 10, 12, 15, 16, 17. *March*, 2, 5, 8, 11, 17, 24.

Dates of Survey while building

During progress of work in shops - - -

During erection on board vessel - - -

Total No. of visits 59

Dates of Examination of principal parts—Cylinders H.P. 4/5/42. M.P. 28/4/42. L.P. 24/4/42. Slides 25/6/42. Covers 12/3/42.

Pistons 14/4/42. Piston Rods 14/4/42. Connecting rods 2/6/42.

Crank shaft 2/4/42. Thrust shaft 2/4/42. Intermediate shaft 20/8/42.

Tube shaft - Screw shaft 20/8/42. Propeller 20/8/42.

Stern tube 21/7/42. 20/10/42 (Hull) Engine and boiler seatings 20/10/42 (Hull) Engines holding down bolts 17.2.43

Completion of fitting sea connections 10/11/42 (Hull)

Completion of pumping arrangements 11/3/43 Boilers fixed 2.3.43 Engines tried under steam 2.3.43 & 17.3.43.

Main boiler safety valves adjusted 2.3.43 Thickness of adjusting washers Port 5/16" steel 7/16"

Crank shaft material Infot. Steel Identification Mark N° 6423 WNF 2/4/42. Thrust shaft material Infot. Steel Identification Mark N° 6424 WNF 2/4/42.

Intermediate shafts, material Infot. Steel Identification Marks 20/8/42 Tube shaft, material - Identification Mark -

Screw shaft, material Infot. Steel Identification Mark N° 6424 WNF 20/8/42 Steam Pipes, material steel Test pressure 600 Date of Test 18.2.43 to 27.2.43.

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 If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c. This machinery has been built under Special Survey in accordance with the approved plans, Specification & the rules of the Society. The materials & workmanship are good. The machinery has been efficiently fitted on board and tried under working conditions at quay wall with satisfactory results and in my opinion, for the

NOTATION + L.M.C. 3.43, O.G., I.S.B. 200 lb. F.D.

SUNDERLAND

The amount of Entry Fee ... £ 3 : : When applied for, 2 6 MAR 1943

Special Specification ... £ 45 : 15 : : When received,

Donkey Boiler Fee ... £ 11 : 9 :

Travelling Expenses (if any) £ : : 19

L. P. Home
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 2 APR 1943

Assigned *Lamb 3.43*
J.D. Oly.

