

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 14 SEP 1942

Date of writing Report 11/9/42 When handed in at Local Office 11/9/42 Port of WEST HARTLEPOOL

No. in Survey held at WEST HARTLEPOOL Date, First Survey 19th January, 1942 Last Survey 29th August, 1942
Reg. Book. (Number of Visits 64)

on the STEEL SCREW STEAMER EMPIRE CLARION Tons { Gross 7031.21
Net 4915.74

Built at WEST HARTLEPOOL By whom built WM. GRAY & CO. LTD Yard No. 1133 When built 1942

Engines made at WEST HARTLEPOOL By whom made CENTRAL MARINE ENG WORKS Engine No. 1133 When made 1942

Boilers made at WEST HARTLEPOOL By whom made CENTRAL MARINE ENG WORKS Boiler No. 1133 When made 1942

Registered Horse Power 510 Owners MINISTRY OF WAR TRANSPORT Port belonging to WEST HARTLEPOOL

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 OCEAN GOING

ENGINES, &c.—Description of Engines Overhead triple expansion Revs. per minute 76

Dia. of Cylinders $24\frac{1}{2} \times 39 \times 70$ Length of Stroke 48 No. of Cylinders 3 No. of Cranks 3

Rank shaft, dia. of journals as per Rule 13.99 Crank pin dia. 14.7 Mid. length breadth 21 Thickness parallel to axis 8.2
as fitted 14.7 Crank webs 8.2 shrunk Thickness around eye-hole 6.4

Intermediate Shafts, diameter as per Rule 13.32 Thrust shaft, diameter at collars as per Rule 13.99
as fitted 13.32 as fitted 14.7

Tube Shafts, diameter as per Rule 14.84 Is the { tube } shaft fitted with a continuous liner {
as fitted 15.2 { screw } Yes

Bronze Liners, thickness in way of bushes as per Rule 7.53 Thickness between bushes as per Rule 2.1 Is the after end of the liner made watertight in the
as fitted 8.12 as fitted 3.2

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 One length

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 If so, state type Length of Bearing in Stern Bush next to and supporting propeller 5.1

Propeller, dia. 18.3 Pitch 16.6 No. of Blades 4 Material CAST IRON whether Moveable No Total Developed Surface 110 sq. feet

Feed Pumps worked from the Main Engines, No. Diameter Stroke Can one be overhauled while the other is at work

Bilge Pumps worked from the Main Engines, No. 2 Diameter 4 Stroke 28 Can one be overhauled while the other is at work Yes

Feed Pumps { No. and size 3 @ $9\frac{1}{2} \times 7 \times 21$ Pumps connected to the { No. and size 2 @ 4×28 } 1 @ $10 \times 11 \times 10$ DUPLEX 1 @ $9\frac{1}{2} \times 7 \times 21$ SINGLEX
How driven INDEPENDENT STEAM Main Bilge Line How driven MAIN ENGINE INDEPENDENT STEAM

Ballast Pumps, No. and size 1 @ $10 \times 11 \times 10$ DUPLEX 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 4 @ 3" 1 @ 5" In Holds, &c. No. 1. 2 @ 3" No. 2. 2 @ 3" No. 3. 2 @ 3" BRRM 2 @ 3"

Engine Room 2 @ 3" No. 4. 2 @ 3" No. 5. 2 @ 3" TUNNEL WELL 1 @ 2.5"

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 @ 9" Independent Power Pump Direct Suctions to the Engine Room Bilges,
No. and size 1 @ 5" 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 On reservoirs 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 Bilge pipes to Forward Holds How are they protected Wood ceiling

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 None worked from

MAIN BOILERS, &c.—(Letter for record 5) Total Heating Surface of Boilers 7248 sq. ft

Which Boilers are fitted with Forced Draft All Which Boilers are fitted with Superheaters All

No. and Description of Boilers 3 Single ended multitubular Working Pressure 220 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 9.5.41 Main Boilers 19.2.41 Auxiliary Boilers Donkey Boilers

(If not state date of approval)

Superheaters General Pumping Arrangements Oil fuel Burning Piping Arrangements

SPARE GEAR.

Is the spare gear required by the Rules been supplied Yes

Is the principal additional spare gear supplied

The foregoing is a correct description.

For THE CENTRAL MARINE ENGINE WORKS,

J. H. Groomer

Manufacturer.

GENERAL MANAGER.

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Lloyd's Register
Foundation

1942. January 19.21. February 12.24. March 10. April 18.24.27. May 4.5.16.20.21.22.26.29.
During progress of work in shops -- June 2.3.4.5.6.8.9.10.12.13.22.23.24.25.26.27.29.30. July 1.2.3.6.7.10.11.13.14.15.20.22.24.25.
Dates of Survey while building During erection on board vessel -- 1942. April 29. May 27. June 1.11. July 4.8.17.27.30. August 10.13.20.21.25.28.29.
Total No. of visits 64

Dates of Examination of principal parts—Cylinders 13-4-42 - 13-6-42. Slides 13-6-42. Covers 13-6-42.
Pistons 13-6-42. Piston Rods 24-4-42. Connecting rods 24-4-42.
Crank shaft 16-5-42 - 16-6-42. Thrust shaft 15-5-42 - 16-6-42. Intermediate shafts 28-6-42.
Tube shaft —. Screw shaft 22-5-42 - 28-6-42. Propeller 28-6-42.
Stern tube 28-6-42. Engine and boiler seatings 11-6-42. Engines holding down bolts 17-7-42.
Completion of fitting sea connections 11-6-42.
Completion of pumping arrangements 21-8-42. Boilers fixed 17-7-42. Engines tried under steam 21-8-42.
Main boiler safety valves adjusted 20-8-42. Thickness of adjusting washers $\frac{1}{16}$ " $\frac{3}{16}$ " $\frac{1}{8}$ " $\frac{3}{16}$ " $\frac{1}{16}$ " $\frac{1}{16}$ " $\frac{3}{16}$ ".
Crank shaft material INGOT STEEL Identification Mark N°8485 CP. Thrust shaft material INGOT STEEL Identification Mark N°8415 CP.
Intermediate shafts, material INGOT STEEL Identification Marks N°8417, 8.9.20, 192 CP. Tube shaft, material — Identification Mark —.
Screw shaft, material INGOT STEEL Identification Mark N°8416 CP. Steam Pipes, material SD STEEL. Test pressure 660 lbs. Date of Test 3-7-42.
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 Yes. If so, state name of vessel S.S. EMPIRE LIONEL RPT N° 18307.

General Remarks (State quality of workmanship, opinions as to class, &c.) The engines and boilers of the vessel have been built under special survey and in accordance with the approved plans and specification. The materials and workmanship have been found good. Upon completion they were examined under full working conditions and found satisfactory. It is recommended that the machinery of this vessel be classed in the Register Book of L.M.C. 8.42. 35B (S) F.D. C.L.

The amount of Entry Fee ... £ 6 : 0 :
Special ... £ 100 : 10 :
SUPERVISION Donkey Boiler Fee ... £ 25 : 3 :
Travelling Expenses (if any) £ : :
When applied for, 11/9/42
When received, 19

Arthur W. Oxford
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute
Assigned 12.8.42
J.D. C.L.

FRI 18 SEP 1942