

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

JAN 13 1941

Date of writing Report 31/12/1940 When handed in at Local Office 31/12/1940 Port of WEST HARTLEPOOL

No. in Survey held at WEST HARTLEPOOL.

Date, First Survey 16th AprilLast Survey 27th December 1940

Reg. Book.

(Number of Visits 77)

on the S.S. EMPIRE STRAIT

Gross 2824.07

Net 1574.73

Built at West Hartlepool By whom built Wm. Gray & Co. Ltd.

Yard No. 1112

When built 1940.

Engines made at West Hartlepool.

By whom made Central Marine Engine Works

Engine No. 1112

When made 1940.

Boilers made at West Hartlepool.

By whom made Central Marine Engine Works

Boiler No. 1112

When made 1940.

Registered Horse Power

Owners Ministry of Shipping

Port belonging to West Hartlepool.

Nom. Horse Power as per Rule 255.

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 INVERTED TRIPLE EXPANSION.

Revs. per minute 80

Dia. of Cylinders 20" x 55" x 33"

Length of Stroke 39"

No. of Cylinders 3

No. of Cranks 3

Crank shaft, dia. of journals as per Rule 11"

Crank pin dia. 11 1/4"

Crank webs

Mid. length breadth 16"

Thickness parallel to axis 6 3/8"

as fitted 11 1/4"

Mid. length thickness 6 3/8"

Thickness around eye-hole 4 3/8"

Intermediate Shafts, diameter as per Rule

None

Thrust shaft, diameter at collars as per Rule

11"

as fitted

11 1/4"

Tube Shafts, diameter as per Rule

Screw Shaft, diameter as per Rule

11.75"

Is the screw shaft fitted with a continuous liner

Yes

as fitted

12"

Bronze Liners, thickness in way of bushes as per Rule

6.57"

Thickness between bushes as per Rule

4.92"

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 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

Is an approved Oil Gland or other appliance fitted at the after end of the tube

If two liners are fitted, is the shaft lapped or protected between the liners

Length of Bearing in Stern Bush next to and supporting propeller 4'-0"

Propeller, dia. 15'-6" Pitch 15'-6" No. of Blades 4

Material CAST IRON whether Moveable No.

Total Developed Surface 73 sq. feet

Feed Pumps worked from the Main Engines, No. 2

Diameter 3"

Stroke 26"

Can one be overhauled while the other is at work Yes

Bilge Pumps worked from the Main Engines, No. 2

Diameter 3 1/2"

Stroke 26"

Can one be overhauled while the other is at work Yes

Feed Pumps { No. and size 2 @ 3" dia x 26" 1 @ 8" x 6" x 15" SIMPLY

Pumps connected to the

{ No. and size 1 @ 10" x 11" x 10" 1 @ 8" x 6" x 15"

How driven MAIN ENGINE

INDEPENDENT

Main Bilge Line

How driven INDEPENDENT

INDEPENDENT

Ballast Pumps, No. and size 1 @ 10" x 11" x 10"

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 @ 3" 1 @ 4"

In Holds, &c. No. 1 2 @ 3 1/2" No. 2 2 @ 3" BOILER RM 2 @ 3"

In Pump Room

ENGINE RM. 1 @ 3"

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 @ 4"

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 MAIN ON RESERVOIR REST ON SHELL

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 MAIN BELOW REST ABOVE

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 suction pipes

How are they protected Wood ceiling

What pipes pass through the deep tanks No. 1 Bilge suction pipes

Have they been tested as per Rule

Yes

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

Is the Shaft Tunnel watertight

None

Is it fitted with a watertight door

worked from

MAIN BOILERS, &c.—(Letter for record S.)

Total Heating Surface of Boilers 3530 sq

Which Boilers are fitted with Forced Draft

Both

Which Boilers are fitted with Superheaters

Neither

No. and Description of Boilers 2 Single ended Multitubular 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

Yes

Main Boilers

Yes

Auxiliary Boilers

Donkey Boilers

(If not state date of approval)

Superheaters

General Pumping Arrangements

Yes

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

Spare propeller stored at Central Marine

Engine Works West Hartlepool See Lon 2nd E 31-5-40.The foregoing is a correct description.
FOR THE CENTRAL MARINE ENGINE WORKS,

(W. Gray & Co. Ltd.)

Manufacturer.

GENERAL MANAGER.



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002743-002749-0202

1940. April 16. May 8. 13. July 9. 10. 11. 12. 15. 22. 30. 31. Aug. 2. 6. 7. 12. 14. 20. 22. 23. 30. Sept. 3. 5. 10. 12. 13. 20.
 During progress of work in shops - -
 Oct. 1. 2. 4. 8. 9. 11. 16. 17. 18. 21. 23. 28. 29. 30. 31. Nov. 1. 2. 4. 5. 8. 11. 12. 30. Dec. 3. 5. 9. 10. 11. 12. 13. 16.
 Dates of Survey while building
 During erection on board vessel - - -
 1940. Oct. 8. 14. 17. 18. 25. Nov. 6. 11. 12. 14. 15. 22. 28. Dec. 2. 7. 11. 18. 20. 21. 24. 27.
 Total No. of visits 77

Dates of Examination of principal parts—Cylinders 31/7/40, 28/10/40 Slides 30/8/40 Covers 30/8/40
 Pistons 5/9/40 Piston Rods 2/8/40, 2/11/40. Connecting rods 2/8/40, 2/11/40.
 Crank shaft 2/10/40, 1/11/40. Thrust shaft 12/8/40, 1/11/40. Intermediate shafts —
 Tube shaft ✓ Screw shaft 16/10/40, 1/11/40. Propeller 31/10/40.
 Stern tube 28/10/40, 4/11/40. Engine and boiler seatings 14/10/40. Engines holding down bolts 11/12/40.
 Completion of fitting sea connections 25/10/40.
 Completion of pumping arrangements 21/12/40. Boilers fixed 11/12/40. Engines tried under steam 20/12/40.
 Main boiler safety valves adjusted 20/12/40. Thickness of adjusting washers P 3/8 P 11/32 S 23/64 S 23/64
 Crank shaft material INGOT STEEL Identification Mark N°3325 REG. Thrust shaft material INGOT STEEL Identification Mark N°3343 REG.
 Intermediate shafts, material ✓ Identification Marks — Tube shaft, material — Identification Mark —
 Screw shaft, material INGOT STEEL Identification Mark N°3342 REG. Steam Pipes, material SD STEEL Test pressure 600 lbs. Date of Test 30/11/40.
 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 No. If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c. The engines and boilers of this vessel have been constructed under Special Survey and in accordance with the approved plans, and specification.

The workmanship and materials 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 2 1/2 H.M.C. 12.40 2 SB. F.D. C.L.

The amount of Entry Fee ... £ 4 : 0 :
 Special ... £ 63 : 5 :
 Donkey Boiler Fee ... £ 15 : 16 :
 Travelling Expenses (if any) £ : :
 When applied for, 19
 When received, 19

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

Committee's Minute TUE. 21 JAN 1941

Assigned

F.D. 12.40
 J.D. C.L.



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