

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

No. 32855

Date of writing Report 19 When handed in at Local Office 24 APR 1940 Port of SUNDERLAND.
 No. in Survey held at SUNDERLAND, Date, First Survey 22 June '39 Last Survey 20 April 1940
 Reg. Book. on the S.S. HARPAGUS (Number of Visits 114)
 Built at Sunderland By whom built Barkham & Sons, Ltd Yard No. 282 Tons Gross 5173 Net 2980
 Engines made at do. By whom made J. E. Harris Eng. Co. (1938) Engine No. 2952 When built 1940
 Boilers made at do. By whom made do. Boiler No. do. When made do.
 Registered Horse Power 4 Owners J. & E. Harrison, Ltd Port belonging to London
 Nom. Horse Power as per Rule 470 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes
 Trade for which Vessel is intended General

ENGINES, &c.—Description of Engines Triple Expansion with poppet-valves H.P. & I.P. Revs. per minute
 Dia. of Cylinders 23 1/2", 38" 66" Length of Stroke 45" No. of Cylinders 3 No. of Cranks 3
 Crank shaft, dia. of journals as per Rule 133" as fitted 133 1/4" Crank pin dia. 13 1/4" Crank webs Mid. length breadth — Mid. length thickness — Thickness parallel to axis 8 3/4" & 9 1/4" Thickness around eye-hole 6 1/8" & 7 1/8"
 Intermediate Shafts, diameter as per Rule 12.67" as fitted 13 1/8" Thrust shaft, diameter at collars as per Rule 133" as fitted 13 3/4"
 Tube Shafts, diameter as per Rule — as fitted — Screw Shaft, diameter as per Rule 14.2" as fitted 14 3/4" Is the tube screw shaft fitted with a continuous liner? yes
 Bronze Liners, thickness in way of bushes as per Rule 23.45/32" as fitted 3/16" Thickness between bushes as per Rule 17.58/32" as fitted 5/8" 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 shaft? no If so, state type — Length of Bearing in Stern Bush next to and supporting propeller 5'-0"
 Propeller, dia. 18'-6" Pitch 16'-4" (medium) Blades 4 Material Brass whether Moveable not Total Developed Surface 115 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 24" Can one be overhauled while the other is at work yes
 Feed Pumps { No. and size 2. 9 1/2" x 7" x 21" How driven Steam Pumps connected to the Main Bilge Line { No. and size 1. 10 1/2" x 12 1/2" x 21" How driven Steam
 Ballast Pumps, No. and size 1. 10 1/2" x 12 1/2" x 21" 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. 2. 3" dia.; 1. 3" dia. portable hose; Blr. Rm. 2. 3" dia.
 In Pump Room — In Holds, &c. No. 1. 2 & 3" dia.; No. 2. 2 & 3 1/2" dia.; Sup Tank 2 & 2 1/2" dia.;
 Cofferdam 1 & 2" dia.; No. 3. 4 & 2 1/2" dia.; No. 4. 2 & 3" dia.; Tunnel well 1 & 2 1/2" dia..
 Main Water Circulating Pump Direct Bilge Suctions, No. and size 1. 8" dia. Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1. 5" 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 yes
 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 both
 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 none How are they protected —
 What pipes pass through the deep tanks 2 cold hold suction 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 yes Is the Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from

MAIN BOILERS, &c.—(Letter for record 2) Total Heating Surface of Boilers 5258 + 1682 = 6940
 Which Boilers are fitted with Forced Draft all Which Boilers are fitted with Superheaters port & starboard
 No. and Description of Boilers 2 main & 1 aux. S.E. Cylindrical 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 12/6/39 Main Boilers yes Auxiliary Boilers yes Donkey Boilers —
 (If not state date of approval)
 Superheaters yes General Pumping Arrangements Retained for No. 2953 Oil fuel Burning Piping Arrangements yes

SPARE GEAR.

Has the spare gear required by the Rules been supplied yes.

State the principal additional spare gear supplied

Propeller shaft
 2 Top end bolts.
 2 main bearing bolts.
 12 holding down bolts & nuts.
 12 Cylinder Studs & nuts.
 12 Valve chest Studs & nuts.
 24 Condenser Tubes & 150 females.
 H.P. poppet valve spindle
 I.P. do.

The foregoing is a correct description.

THE NORTH EASTERN MARINE ENGINEERING CO. (1938) LTD.

Manufacturer.

RESIDENT MANAGER.



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1939 June 22, Sep. 6, 12, 25, 26, Oct. 2, 6, 13, 18, 20, 23, 24, 30, Nov. 1, 6, 7, 10, 13, 14, 15, 17, 20, 23, 24, 27, 28, 29, 30, Dec. 1, 4, 6, 7, 8, 11, 13, 14, 15, 18, 20, 21, 23, 27, 28, 29, 1940 Jan. 2, 3, 4, 5, 6, 8, 9, 10, 12, 13, 15, 16, 17, 18, 19, 20, 22, 23, 24, 26, 27, 29, 30, 31, Feb. 1, 2, 3, 4, 6, 7, 8, 9, 13, 14, 15, 19, 21, 22, 26, 27, 28, 29, Mar. 1, 2, 4, 5, 6, 8, 9, 11, 12, 14, 15, 16, 18, 19, 20, 23, 26, 27, 30, Apr. 4, 5, 6, 10, 11, 12, 20.

Dates of Survey while building

During progress of work in shops - -

During erection on board vessel - -

Total No. of visits 114

Dates of Examination of principal parts—Cylinders 12, 16, 23/1/40 Slides 6/2/40 Covers 23/1/40

Pistons 2/2/40 Piston Rods 22/1/40 Connecting rods 24/1/40

Crank shaft 4/12/39, 10/1/40 Thrust shaft 2/2/40 Intermediate shafts 3/1/40

Tube shaft — Screw shaft 28/12/39. Spare 10/1/40 Propeller 28/12/39

Stern tube 10/1/40 Engine and boiler seatings 7/11/39 Engines holding down bolts 6/3/40

Completion of fitting sea connections 27/11/39

Completion of pumping arrangements 5/4/40 Boilers fixed 2/3/40 Engines tried under steam 5/4/40

Main boiler safety valves adjusted 23/3/40 Thickness of adjusting washers Steel. 13/32" post, 13/32" steel. 11/32" September

Crank shaft material steel Identification Mark 271 Thrust shaft material steel Identification Mark 307

Intermediate shafts, material steel Identification Marks 295, 298, 305, 309, 310, 338 Tube shaft, material — Identification Mark —

Screw shaft, material steel Identification Mark 266 Steam Pipes, material steel Test pressure 660 lbs Date of Test 6/2/40

Is an installation fitted for burning oil fuel yes Is the flash point of the oil to be used over 150°F. yes

Have the requirements of the Rules for the use of oil as fuel been complied with yes

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 not required

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 machinery of this vessel has been constructed under Special Survey in accordance with the approved plans, Secretary's letters and the requirements of the Rules. Workmanship and materials are good.

The machinery has been efficiently fitted on board and tried under working conditions with satisfactory results and is eligible, in my opinion, for the

NOTATION + L. M. C. 4. 40., 2. S. B. (Spt), 1 Aux. S. F. D., C. L. (R&L).

The amount of Entry Fee ... £ 5 : : When applied for, 3 APR 1940

Special ... £ 95 : 10 2

Donkey Boiler Fee ... £ : : When received, 29. 4. 40 R&L

Travelling Expenses (if any) £ : : 19

Committee's Minute TUE. 30 APR 1940

Assigned + Lmc 4. 40

2 S B (Spt) } F.D. Ch.
Held for O.F. 4.40 1 aux B
F.P. above 150°F (R&L)



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