

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Date of writing Report 19 When handed in at Local Office 29 MAR 1939 Port of SUNDERLAND
 No. in Survey held at SUNDERLAND Date, First Survey 8 June '38 Last Survey 25 March 1939
 Reg. Book. on the S.S. BRETWALDA (Number of Visits 91)
 Built at Sunderland By whom built J.H. Thompson & Sons, Ltd. Yard No. 591 Tons { Gross 4906
 Engines made at do. By whom made J.E. Harris Eng. Co. (1918) Engine No. 2920 When built 1939
 Boilers made at do. By whom made do. Boiler No. do. When made do.
 Registered Horse Power Owners Hall Bros Port belonging to Newcastle
 Nom. Horse Power as per Rule 365 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, fitted valves H.P. & L.P. Reheat Revs. per minute
 Dia. of Cylinders 23", 38", 65" Length of Stroke 42" No. of Cylinders 3 No. of Cranks 3
 Crank shaft, dia. of journals as per Rule appl. Crank pin dia. 1-1" Crank webs Mid. length breadth shrunk Thickness parallel to axis 8 1/2"
 Intermediate Shafts, diameter as per Rule appl. Thrust shaft, diameter at collars as per Rule appl.
 Tube Shafts, diameter as per Rule appl. Screw Shaft, diameter as per Rule appl. Is the tube shaft fitted with a continuous liner? yes
 Bronze Liners, thickness in way of bushes as per Rule appl. Thickness between bushes as per Rule appl. 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.
 Propeller, dia. 18' 0" Pitch 18.13 No. of Blades 4 Material Mng. Bmz whether Moveable not Total Developed Surface 113.5 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 3 1/2" Stroke 22 1/2" Can one be overhauled while the other is at work yes
 Feed Pumps { No. and size 2. 8 1/2" x 6 x 18" Pumps connected to the { No. and size 1. 9 x 11 x 10"
 { How driven Steam Main Bilge Line { How driven Steam
 Ballast Pumps, No. and size 1. 9 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
 Bilge Pumps;—In Engine and Boiler Room Eng. Rm. 2 & 3" dia. Btr. Rm. 2 & 3 1/2" dia.
 In Pump Room After main, 2 & 3" dia.; No. 5. 2 & 3" dia.; Tunnel well, 1 & 3" dia.
 Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 & 7" 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 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 yes worked from

MAIN BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 5075 ft²
 Which Boilers are fitted with Forced Draft 2 main Which Boilers are fitted with Superheaters 2 main
 No. and Description of Boilers 3 cylindrical multibubblers Working Pressure 220 lbs.
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? yes
 IS A DONKEY BOILER FITTED? no
 Can the donkey boiler be used for domestic purposes only If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting 15/10/37 Main Boilers yes Auxiliary Boilers yes Donkey Boilers
 (If not state date of approval)
 Superheaters details 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

one screw shaft.

1 Top end bearing

2 main bearing rollers.

4 Condenser Tubes & 75 ferrules.

3 main & 3 auxiliary check valve lifts.

2 screw, 2 blow down, 2 circulating valve lifts.

1 main & 1 auxiliary safety valve spring.

6 main & 6 auxiliary boiler plain tubes.

superheaters:

20% total number jointing rings

10% " " stud plugs.

5% " " studs & nuts.

2% " " clamps.

1 safety valve spring for each valve.

1 element, complete, for each (main) boiler.

The foregoing is a correct description.

THE NORTH EASTERN MARINE ENGINEERING CO. (1888) LTD.

Manufacturer.

RESIDENT MANAGER.



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Lloyd's Register
Foundation

W11-0077

1938. June 8, 14, 20, 27, 28, 30. July. 1, 12, 15, 17. Aug. 5, 15, 17. Sep. 6, 12, 15, 19, 20, 22, 26, 30. Oct. 3, 5, 6, 7, 10, 11. Oct. 17, 18, 19, 20, 21, 25, 26, 28, 31. Nov. 1, 4, 16, 17, 18, 22, 28, 29, 30. Dec. 2, 6, 8, 13, 15, 16, 17, 19, 21, 23, 29, 30. 1939. Jan. 3, 5, 9, 10, 12, 13, 16, 17, 18, 20, 24, 25, 26, 30, 31. Feb. 6, 7, 8, 13, 14, 15, 17, 18, 20, 21, 22, 24, 25, 27, 28. Mar. 6, 13, 20, 25.

Dates of Survey while building
During progress of work in shops --
During erection on board vessel ---
Total No. of visits 91

Dates of Examination of principal parts—Cylinders 21/10/38 Slides 9/10/38, 31/10/38, 23/11/38 Covers 30/11/38
Pistons 20/10/38 Piston Rods 28/10/38 Connecting rods 19/10/38
Crank shaft 12/9/38 Thrust shaft 12/9/38 Intermediate shafts 24/1/39
Tube shaft — Screw shaft 25/1/39, 30/4/39 Propeller 14/2/39
Stern tube 5/1/39 Engine and boiler seatings 26/1/39 Engines holding down bolts 28/2/39
Completion of fitting sea connections 26/1/39
Completion of pumping arrangements 20/3/39 Boilers fixed 22/2/39 Engines tried under steam 28/2/39
Main boiler safety valves adjusted 27/28/2/39 Thickness of adjusting washers Main 3/8" Auxiliary 5/16" Superheat 1/32" Standard 5/16" port.
Crank shaft material steel Identification Mark 538 Thrust shaft material steel Identification Mark 569
Intermediate shafts, material steel Identification Marks 779 Tube shaft, material — Identification Mark 7/2/39 to
Screw shaft, material steel Identification Mark 777 Steam Pipes, material steel Test pressure 660 lbs Date of Test 7/2/39 to
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 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 letter 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 slight, in my opinion, for the

NOTATION + L. M. C. 3.39.

SUNDERLAND.

Certificate to be sent to

The Surveyors are requested not to write on or below the space for Committee's Minute.

The amount of Entry Fee ... £ 5 : : When applied for,
Special ... £ 79 : 15 : 29 MAR 1939
Donkey Boiler Fee ... £ : : When received,
Travelling Expenses (if any) £ : : 5.48 19.30 86/5

Committee's Minute WED 12 APR 1939

Assigned to Lmb J. 39
2 L.B. (Spt.) J.D.
1 Ant. J.B. Ck

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