

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

28 MAY 1935

Date of writing Report 10 When handed in at Local Office 27 MAY 1935 Port of Sunderland.

No. in Survey held at Sunderland. Date, First Survey Dec 18 Last Survey May 23 1935
 Reg. Book. on the Steel Screw Steamer "THORNABY" (Number of Visits 41)

Built at Newcastle By whom built Hawthorn Leslie & Co. Ltd Yard No. 596 Tons { Gross / Net }
 Engines made at Sunderland By whom made North Eastern Marine Eng'g Co. Ltd Engine No. 2814 When built 1935
 Boilers made at Sunderland By whom made North Eastern Marine Eng'g Co. Ltd Boiler No. 2814 When made 1935
 Registered Horse Power Owners Tyne Sea Steamer Shipping Co. Ltd Port belonging to Middlesbrough
 Nom. Horse Power as per Rule 148 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes
 Trade for which Vessel is intended Coasting

ENGINES, &c.—Description of Engines Triple Expansion Revs. per minute 83

Dia. of Cylinders 16" x 26" x 44" Length of Stroke 30" No. of Cylinders 3 No. of Cranks 3
 Crank shaft, dia. of journals 8.68" Crank pin dia. 9" Mid. length breadth 16 1/4" Thickness parallel to axis 5 1/2"
 as per Rule 8.68" as fitted 9" Crank webs 5 1/2" Mid. length thickness 5 1/2" Thickness around eye-hole 4 1/2"
 Intermediate Shafts, diameter as per Rule 8.26" as fitted 8 3/8" Thrust shaft, diameter at collars as per Rule 8.68" as fitted 9"

Tube Shafts, diameter as per Rule 9.26" as fitted 9 1/2" Is the shaft fitted with a continuous liner Yes
 Screw Shaft, diameter as per Rule 5.48" as fitted 5/8" Thickness between bushes as per Rule .43" as fitted 9/16" Is the after end of the liner made watertight in the propeller boss Yes
 Bronze Liners, thickness in way of bushes as per Rule 5/8" as fitted 5/8" Thickness between bushes as per Rule .43" as fitted 9/16" 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 Yes
 If two liners are fitted, is the shaft lapped or protected between the liners Yes Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft No
 Propeller, dia. 12'-0" Pitch 11'-8" No. of Blades 4 Material C.I. whether Movable No. Total Developed Surface 46 sq. feet
 Feed Pumps worked from the Main Engines, No. 2 Diameter 2 3/4" Stroke 1'-3" Can one be overhauled while the other is at work Yes
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 2 3/4" Stroke 1'-3" Can one be overhauled while the other is at work Yes
 Feed Pumps { No. and size 1 @ 4" x 6" x 12" 1 @ 6" x 4" x 6" Pumps connected to the Main Bilge Line { No. and size 1 @ 6" x 4" x 9"
 How driven Steam How driven Steam

Ballast Pumps, No. and size 1 @ 6" x 4" x 9" Lubricating Oil Pumps, including Spare Pump, No. and size 1
 Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room 1 @ 2 1/2" x 1 @ 2" in E.R. 3 @ 2 1/2" in Boiler Room 1 @ 2 1/4" Tunnel
 In Pump Room None In Holds, &c. 2 @ 2" in aft hold, 2 @ 3" in fore hold

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 @ 4" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 3 1/2" 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 about
 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 For Bilge Suctions How are they protected head casings
 What pipes pass through the deep tanks Yes 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 steering engine room

MAIN BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 2632 \$
 Is Forced Draft fitted No. No. and Description of Boilers 2 S.E. Working Pressure 200
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes
 IS A DONKEY BOILER FITTED? No. If so, is a report now forwarded? No.

PLANS. Are approved plans forwarded herewith for Shafting (If not state date of approval) Yes Main Boilers Yes Auxiliary Boilers No. Donkey Boilers No.
 Superheaters No. General Pumping Arrangements Yes Oil fuel Burning Piping Arrangements No.

SPARE GEAR.
 Has the spare gear required by the Rules been supplied Yes
 State the principal additional spare gear supplied one Cast iron Propeller, one Propeller Shaft, Junk ring bolt's nuts, Set of Lockwood & Bartlett Gearing for M.P. & M.P. pistons, 2 main & 2 aux. feed check valve lids, Complete set of valves & guards for feed donkey, one set air pump valves, one pair bottom end bearings, 25 Condenser tubes & grommets, 6 Plain boiler tubes, 2 Safety valve Springs, 1 eccentric Slap

The foregoing is a correct description,
 FOR THE NORTH EASTERN MARINE ENGINEERING CO. LD.

Archie J. Berry
 MANAGER

Manufacturer.



003252-003262-0012

1934 Dec. 18, 20. 1935 Jan. 16, 21, 23, 25, 28, 30 Feb. 1, 4, 6, 8, 11, 13, 15, 18, 20, 22, 23, 25, 27.
 During progress of work in shops -- }
 Dates of Survey while building }
 During erection on board vessel -- }
 Total No. of visits 41

JAN. 23. 25
 FEB. 1. 13. 23 / 35 Slides 20. 2. 35. Covers 22. 2. 35
 Dates of Examination of principal parts—Cylinders
 Pistons 4. 2. 35 13. 2. 35. Piston Rods 4. 2. 35 13. 2. 35. Connecting rods 1. 3. 35.
 Crank shaft 30. 1. 35 1. 2. 35 4. 2. 35 Thrust shaft 22. 2. 35. Intermediate shafts 15. 4. 35.
 Tube shaft 15. 4. 35. Screw shaft 6. 2. 35 10. 4. 35 15. 4. 35 Propeller 15. 4. 35. 30. 4. 35 (Nwc)
 Stern tube 15. 4. 35. 18. 4. 35 (Nwc) Engine and boiler seatings 30. 4. 35 (Nwc) Engines holding down bolts 14. 5. 35.
 Completion of fitting sea connections 30. 4. 35 (Nwc)
 Completion of pumping arrangements 23. 5. 35. Boilers fixed 15. 5. 35. Engines tried under steam 13. 5. 35.
 Main boiler safety valves adjusted 23. 5. 35. Thickness of adjusting washers Port Bl. T. 3/8 S. 7/16 St. Bl. T. 3/8 S. 3/8
 Crank shaft material Steel Identification Mark No 7713 W.H.F. 22. 2. 35 Thrust shaft material Steel Identification Mark No 7742 W.H.F. 22. 2. 35
 Intermediate shafts, material Steel Identification Mark No 7742 W.H.F. 15. 4. 35 Tube shaft, material Steel Identification Mark No 7742 W.H.F. 15. 4. 35
 Screw shaft, material Steel Identification Mark No 7742 W.H.F. 15. 4. 35 Steam Pipes, material Steel Test pressure 600 Date of Test 14. 5. 35.
 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.)
 This machinery has been built under Special Survey in accordance with the Rules of the Society.
 The materials & workmanship are good.
 The machinery has been securely fitted on board the vessel & tried under Steam with Satisfactory results & is eligible in my opinion to have the notation L.N.C. 5. 35, T.S. (CL) in the Register Book.

J. P. Hasw.
 Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ 3 : - : When applied for.
 Special ... £ 34 : - : 27 MAY 1935
 Donkey Boiler Fee ... £ : : :
 Travelling Expenses (if any) £ : : : 12. 6. 35
 When received.

TUE. 18 JUN 1935
 Committee's Minute
 Assigned + Lmb 5. 35 C.L.

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