

REPORT ON OIL ENGINE MACHINERY.

No. 53768

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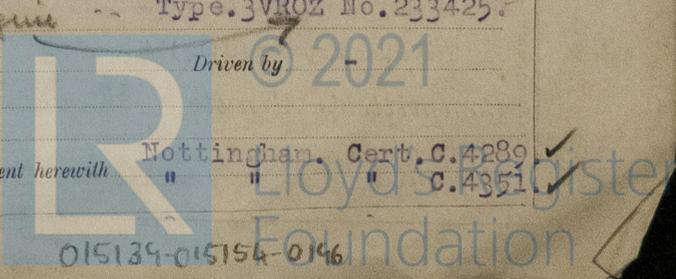
HULL

Date of writing Report 10 When handed in at Local Office 19 Port of **HULL**
 No. in Survey held at **Beverley & Hull.** Date, First Survey **31-12-45** Last Survey **3-10-1946**
 Reg. Book. Number of Visits **30**

64208 on the **Single** } Screw vessel **Motor Trawler "THORINA".** Tons { Gross **339**
Triple } Net **116**
Quadruple }

Built at **Beverley** By whom built **Cook, Welton & Gemmell Ltd.** Yard No. **766** When built **1946**
 Engines made at **Lincoln** By whom made **Ruston & Hornsby Ltd.** Engine No. **241078** When made **1946**
 Vertical (Installed by Messrs. Charles D. Holmes & Co. Ltd., Hull. F.O. No. 1728)
 Donkey Boilers made at **Lincoln** By whom made **Ruston & Hornsby Ltd.** Boiler No. **2573** When made **1946**
 Brake Horse Power **585** Owners **Thornton Trawlers Ltd.** Port belonging to **Fleetwood.**
 M.N. Managers: **J. Marr & Son, Ltd.**
 Nom. Horse Power as per Rule **22.5** Is Refrigerating Machinery fitted for cargo purposes **No** Is Electric Light fitted **Yes**
 Trade for which vessel is intended **Trawling.**

ENGINES, &c.—Type of Engines **8 VEBCM Pressure charged Solid Injection.** 2 or 4 stroke cycle **4** Single or double acting **Single**
 Maximum pressure in cylinders **7561 lbs** Diameter of cylinders **10 1/2"** Length of stroke **14 1/2"** No. of cylinders **8** No. of cranks **8**
 Mean Indicated Pressure **135 lbs** Is there a bearing between each crank **Yes**
 Revolutions per minute **450/128** Flywheel dia. **42 1/2"** Weight **2860 lbs** Means of ignition **Compression** Kind of fuel used **Heavy Oil.**
 Crank Shaft, { Solid forged as per Rule **approx.** Mid. length breadth **11"** Thickness parallel to axis **-**
 { Semi built dia. of journals as fitted **8"** Crank pin dia. **6 1/2"** Crank Webs Mid. length thickness **3.7/16"** Thickness around eyehole **-**
 { All built as fitted **8"** Thrust 36 ton ft.
 Propeller Shaft, diameter as per Rule **-** Intermediate Shafts, diameter as fitted **7 1/2"** Thrust Shaft, diameter at collars as per Rule **see Lon.**
 as fitted **-** as fitted **8"** Is the { tube } shaft fitted with a continuous liner { **Yes**
 as fitted **-** as fitted **8"** as fitted **1 1/2"** Is the after end of the liner made watertight in the
 Propeller Liners, thickness in way of bushes as per Rule **approx.** Thickness between bushes as fitted **1/2"**
 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
 If so, state type **-** Length of Bearing in Stern Bush next to and supporting propeller **2' 10 1/2"**
 Propeller, dia. **9' 8"** Pitch **9' 8 1/2"** No. of blades **4** Material **C.I.** whether Moveable **No** Total Developed Surface **35** sq. feet
 Method of reversing Engines **SIM Gears Type** Is a governor or other arrangement fitted to prevent racing of the engine when declutched **Yes** Means of lubrication
Forced. Thickness of cylinder liners **7/8"** Are the cylinders fitted with safety valves **Yes** Are the exhaust pipes and silencers water cooled or lagged with
 non-conducting material **Yes** If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine **-**
 Cooling Water Pumps, No. **1** at **4 1/2" x 4 1/2"**, **4225 GPH.** Is the sea suction provided with an efficient strainer, which can be cleared within the vessel **Yes**
 Bilge Pumps worked from the Main Engines, No. **One** Diameter **4 1/2"** Stroke **4 1/2"** Can one be overhauled while the other is at work **-**
 Pumps connected to the Main Bilge Line { No. and Size (a) **One GSP - 3" Mono Pump as above.** (b) **1 - ME 4 1/2" x 4 1/2"**
 { How driven (a) **Aux. Oil eng. No. 233425** (b) **ME.**
 Is the cooling water led to the bilges **No** If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping
 arrangements **-** (1-506 GPH Gear pump.
Ballast Pumps, No. and size **None** Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size **4** (1-1000 GPH Drysdale.
 Are there two independent means arranged for circulating water through the Oil Cooler **Yes** Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge
 Pumps, No. and size:—In Machinery Spaces **3-2 1/2", 1-2" Oil cofferdam.** In Pump Room **-**
 In Holds, &c. **One 2" in each following spaces:— fore hold, aft end fishroom, slush well, fore'd cofferdam.**
 Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size **one - 2 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 Spaces
 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 platform plates **Yes** Are the Overboard Discharges above or below the deep water line **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 **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 Part of ER Is it fitted with a watertight door **-** worked from **-**
 If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork **-**
 Main Air Compressors, No. **-** No. of stages **-** Diameters **-** Stroke **-** Driven by **-**
 Auxiliary Air Compressors, No. **one** No. of stages **one** Diameters **3"** Stroke **3 1/2"** Driven by **Belt from ME**
 Small Auxiliary Air Compressors, No. **one** No. of stages **one** Diameters **3 1/2"** Stroke **3 1/2"** Driven by **Aux. Oil eng.**
 What provision is made for first Charging the Air Receivers **- Hand starting from the engine** Type **3VROZ No. 233425.**
 Scavenging Air Pumps, No. **-** Diameter **-** Stroke **-** Driven by **-**
 Auxiliary Engines crank shafts, diameter as per Rule **-** No. **-** Position **-**
 as fitted **3" & 6"** Is a report sent herewith **Nottingham, Cert. C. 4289**
 Have the Auxiliary Engines been constructed under special survey **Yes** " " **C. 4351**



AIR RECEIVERS:—Have they been made under survey... Yes ✓ State No. of Report or Certificate B.3235, B.3236. ER PS. ER PS.

Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes ✓ Can the internal surfaces of the receivers be examined and cleaned Yes ✓ Is a drain fitted at the lowest part of each receiver Yes ✓

Injection Air Receivers, No. - Cubic capacity of each - Internal diameter - thickness - Seamless, lap welded or riveted longitudinal joint - Material - Range of tensile strength - Working pressure by Rules - Actual -

Starting Air Receivers, No. 2 Total cubic capacity 47 ft3 Internal diameter 2'6" thickness 3/8" circumferential riveted. Material Mild Steel. Range of tensile strength 26/30 tons/in2 Working pressure by Rules - Actual 300lbs

IS A DONKEY BOILER FITTED? Yes ✓ If so, is a report now forwarded? Yes + Nott. No.129.

Is the donkey boiler intended to be used for domestic purposes only Yes ✓

PLANS. Are approved plans forwarded herewith for Shafting 30.7.45. Receivers Standard Approach Separate Fuel Tanks 12.3.46. Type.

Donkey Boilers 12.11.45. General Pumping Arrangements 28.2.46. Pumping Arrangements in Machinery Space 28.2.46.

Oil Fuel Burning Arrangements -

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes ✓

State the principal additional spare gear supplied As per attached list.

The foregoing is a correct description, and the particulars of the installation as fitted are approved for torsional vibration characteristics.

Manufacturer.

Dates of Survey while building During progress of work in shops - See Nottingham Report No.135 During erection on board vessel - 1945. Dec-31. Jan 8.21.26. Feb 9.11. Mar 1.8.19. May 8.20. June 5.26.28. July 17.26. Aug 7.14.22.28. Sept 10.11.12.13.24.27.28.30. Oct 1.3. Total No. of visits 30.

Dates of Examination of principal parts—Cylinders see Nottingham Report No. 135. Covers Rods Connecting rods

Crank shaft see Nott. Flywheel shaft - Thrust shaft 22.8.46. Intermediate shafts 21.1.46. Tube shaft -

Screw shaft Rpt.135. Propeller 24.9.46. Stern tube 8.3.46. Engine seatings 25.4.46. Engines holding down bolts 11.9.46.

Completion of fitting sea connections 8.3.46. Completion of pumping arrangements 30.9.46. Engines tried under working conditions 27/9/46.

Crank shaft, Material FI Steel Identification Mark IR 327 JNB Flywheel shaft, Material FI Steel Identification Mark 28 & 30/9/46

Thrust shaft, Material -do- Identification Mark GAS. IWD II Intermediate shafts, Material FI Steel Identification Marks LR 6277

Tube shaft, Material - Identification Mark - Screw shaft, Material -do- Identification Mark 17/12/45.

Identification Marks on Air Receivers 17.3.45.

Three rectangular stamps containing text: TDS 19.8.46. S.16751. LLOYD'S TEST. 600lbs. WP.300lbs. B.3235. LLOYD'S TEST. 600lbs. WP.300lbs. TDS 19.8.46. B.3236. LLOYD'S TEST. 600lbs. WP.300lbs. TDS 19.8.46.

Is the flash point of the oil to be used over 150° F. Yes ✓

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with Yes ✓

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 machinery of this vessel has been installed in accordance with the Secretary's letters, the approved plans and the Rules. The materials and workmanship are good.

Eligible in my opinion to be classed in the Register Book +LMC 10,46. C.L. when survey is completed as below.

Oil engine 8 cyl. 10 1/4", 14 1/2" 4 SC SA 1N 122.5.

1 vertical boiler 100 lbs. H.S. 67 ft2 (Fitted for oil fuel 10,46 F.P. above 150° F.)

Please Note: Ref.E. dated 24.5.46.

To complete the survey the torsiongraph readings still to be taken to confirm the estimated value of the vibration stress in crankshaft, arising from the 8th order 3 node critical speed. It was stated on behalf of Ruston & Hornsby at the loaded trial that Ruston & Hornsby apparatus was in elsewhere but that the tests would be carried out at the first opportunity. A copy of the results (see below)

Table with columns for amount of fees (Entry Fee, Nott. claimed fee, Hull F.O. fee, Donkey Boiler Fee, Travelling Expenses) and when applied/received.

Committee's Minute FRI. 3 JAN 1947

Assigned + LMC 10,46 Oil Eng. C.L. D.B.100lb

Signature of W.S. Shields, Engineer Surveyor to Lloyd's Register of Shipping. Lloyd's Register Foundation logo.

Vertical text on the left margin: Certificate (if required) to be sent to (The Surveyors are requested not to write on or below the space for Committee's Minute.)