

REPORT ON OIL ENGINE MACHINERY.

No. 103570

Received at London Office

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of writing Report 19-3-46, When handed in at Local Office 19-3-46, Port of **NEWCASTLE-ON-TYNE**

Survey held at **NEWCASTLE-ON-TYNE**, Date, First Survey **(1945) April 10th**, Last Survey **15-3-46**, Number of Visits **49**

Book. Single on the Twin Triple Quadruple Screw vessel **TANKER, M/Y. "NEERA"** Tons Gross **8254** Net **4761**

built at **HEBURN**, By whom built **R. W. HAWTHORN, LESLIE & CO LTD.**, Yard No. **670**, When built **1946**

engines made at **NEWCASTLE**, By whom made **R. W. HAWTHORN, LESLIE & CO LTD.**, Engine No. **4011**, When made **1946**

boiler made at **WALLSEND**, By whom made **NORTH EASTERN MARINE ENG. CO. LTD.**, Boiler No. **3094**, When made **1946**

Indicated Horse Power **3500**, Owners **ANGLO-SAXON PETROLEUM CO LTD.**, Port belonging to **London**

Net Horse Power as per Rule **502**, Is Refrigerating Machinery fitted for cargo purposes **NO.**, Is Electric Light fitted **YES.**

made for which vessel is intended **753 for M.N. OPEN SEA.**

ENGINES, &c. — Type of Engines **HAWTHORN - WERKSPOR, SUPERCHARGED**, 2 or 4 stroke cycle **4**, Single or double acting **SINGLE**

Maximum pressure in cylinders **700 lbs/sq. in.**, Diameter of cylinders **25 9/16**, Length of stroke **55 1/8**, No. of cylinders **8**, No. of cranks **8**

Mean Indicated Pressure **135 lbs/sq. in.**, Diameter of bearings, adjacent to the crank, measured from inner edge to inner edge **844**, Is there a bearing between each crank **YES**

Revolutions per minute **120**, Flywheel dia. **2260**, Weight **6000 KG**, Means of ignition **HEAT OF COMPRESSION**, Kind of fuel used **HEAVY OIL FUEL**

Crankshaft, dia. of journals **448**, Crank pin dia. **460**, Crank webs **870**, Mid. length breadth **870**, Thickness parallel to axis **267 & 290**

Intermediate Shafts, diameter **470**, Thrust Shaft, diameter at collars **460**

Screw Shaft, diameter **400**, Is the shaft fitted with a continuous liner **YES**

Brass Liners, thickness in way of bushes **18.55**, Thickness between bushes **13.9**, Is the after end of the liner made watertight in the propeller boss **YES**

Propeller, dia. **15'-0"**, Pitch **12'-0"**, No. of blades **4**, Material **M. BRONZE**, Whether moveable **NO**, Total developed surface **72** sq. feet

Method of reversing Engines **AIR SERVO MOTOR**, Is a governor or other arrangement fitted to prevent racing of the engine when disengaged **YES**

Lubrication **FORCED**, Thickness of cylinder liners **55**, Are the cylinders fitted with safety valves **YES**, Are the exhaust pipes and silencers water cooled

led up to the engine **LED UP**, Cooling Water Pumps, No. **4**, Is the sea suction provided with an efficient strainer which can be cleared within the vessel **SW SYSTEM**

Bilge Pumps worked from the Main Engines, No. **1**, Diameter **ROTARY**, Stroke **40**, Can one be overhauled while the other is at work **YES**

Pumps connected to the Main Bilge Line **3**, 1. ROTARY 32, 1. BALLAST 12" x 8 1/2" x 12" 100, 1. BILGE 6" x 6" x 6" 32

How driven **M.E.**, **STEAM**, **STEAM**

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

Ballast Pumps, No. and size **ONE 12" x 8 1/2" x 12"**, Power Driven Lubricating Oil Pumps, including spare pump, No. and size **1. STEAM 8" x 8" x 10" 50**

Are 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 @ 3 1/2" DIA.**, In pump rooms **1 @ 4" EACH**

In holds, &c. **FOR HOLD 2 @ 2" DIA.**, **FOR PUMP ROOM 1 @ 2" DIA.**, **FOR STORE 2 @ 2" DIA.**, **F. & R. COFFERDAMS 1 @ 4" DIA. IN EACH**

Independent Power Pump Direct Suctions to the engine room bilges, No. and size **TWO 1 @ 5" DIA. 1 @ 7" DIA.**

Are all the bilge suction pipes in holds and pump room fitted with strum-boxes **YES**, Are the bilge suction pipes 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 & BELOW**, 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 **1 - 4" DIA. SUCTION FROM AFT COFFERDAM**, How are they protected **NONE NECESSARY**

What pipes pass through the deep tanks **NONE**, 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 **NONE**, Is it fitted with a watertight door **YES**, worked from **YES**

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork **YES**

Main Air Compressors, No. **NONE**, No. of stages **2**, diameters **90**, stroke **30**, driven by **OIL ENGINE**

Auxiliary Air Compressors, No. **TWO**, No. of stages **2**, diameters **120**, stroke **30**, driven by **STEAM ENGINE**

Small Auxiliary Air Compressors, No. **NONE**, No. of stages **2**, diameters **120**, stroke **30**, driven by **STEAM ENGINE**

What provision is made for first charging the air receivers **STEAM OR OIL DRIVEN AIR COMPRESSORS**

Scavenging Air Pumps, No. **NONE**, diameter **AS APPROX.**, stroke **ENG. NO. 228240**, driven by **ONE 4 CYL. ASCRA. DRAWING AIR COMPRESSOR & 30 H.P. GEN.**

Auxiliary Engines crank shafts, diameter **4 3/16**, Position **STAR SIDE OF E.R.**

Have the auxiliary engines been constructed under special survey **YES**, Is a report sent herewith **YES**, NOTTINGHAM, CONF. NO. 3711

003138-003146-0182

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AIR RECEIVERS:—Have they been made under survey *Ex M/TROCAS* ✓ State No. of report or certificate *N^o 55. LLOYD'S. 725484/B. WR 450184/B. JS. 1-4-2*

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* *✓*

Starting Air Receivers, No. *ONE* Total cubic capacity. *500* Internal diameter. *PLEASE SEE 'TROCAS' 1st ENTRY REPORT* thickness. *✓*

Seamless, lap welded or riveted longitudinal joint. *Riveted* Material. *✓* Range of tensile strength. *✓* Working pressure. *by Rules* *350* Actual. *350*

IS A DONKEY BOILER FITTED *YES* ✓ If so, is a report now forwarded. *YES* ✓

Is the donkey boiler intended to be used for domestic purposes only. *NO* ✓

PLANS. Are approved plans forwarded herewith for shafting. *No - 27-4-43, 23.3.44* (If not, state date of approval) Receivers. *Ex TROCAS* ✓ Separate fuel tanks. *✓*

Donkey boilers. *26-45* General pumping arrangements. *12-2-44* Pumping arrangements in machinery space. *25-6-42*

Oil fuel burning arrangements. *28-8-42 11.7.45 26.*

SPARE GEAR.

Has the spare gear required by the Rules been supplied. *YES* ✓

State the principal additional spare gear supplied.

The foregoing is a correct description. *FOR R. & W. HAWTHORN, LESLIE & CO. LD* Manufacturer.

Dates of Survey while building

During progress of work in shops - *(1945) Mar. 10, May 12, 25, 29, July 27, 28, Aug. 1, 8, 10, 14, 27, 28, 29, 30, 31, Sept. 1, 3, 5, 7, 10, 11, 14, 17, 19, 21, 22, Oct. 1, 3, 5, 16, 17, 18, 23, 30, Nov. 1, 2, 5, 6, 7, 20 Dec. 22 (1946) Feb. 5, 8, 14, 28 Mar. 15*

During erection on board vessel - - -

Total No. of visits *49*

Dates of examination of principal parts—Cylinders. *LINCS & HEADS 1-8-45 - 3-10-45* Pistons. *26-8-45 - 6-11-45* Rods. *23-7-45* Connecting rods. *29-8-45*

Crank shaft. *21-9-45* Flywheel shaft. *20-11-45* Thrust shaft. *20-4-45* Intermediate shafts. *1-11-45* Tube shaft. *✓*

Screw shaft. *24-10-45* Propeller. *9-11-45* Stern tube. *2-11-45* Engine scatings. *✓* Engine holding down bolts. *3-1-45*

Completion of fitting sea connections. *31-10-45* Completion of pumping arrangements. *5-2-45* Engines tried under working conditions. *15-3-46*

Crank shaft, material. *O.H.* Identification mark. *14666.F592A* Flywheel shaft, material. *OH* Identification mark. *14271.F6122*

Thrust shaft, material. *O.H.* Identification mark. *13213. 3169* Intermediate shafts, material. *O.H.* Identification marks. *3.2332*

Tube shaft, material. *✓* Identification mark. *✓* Screw shaft, material. *O.H.* Identification mark. *8.9202*

Identification marks on air receivers. *Ex TROCAS - Examined internally and under water pressure 550 LBS/Sq. found tight and in good condition*

MARKED **RETEST. LLOYD'S. 550 LBS/SQ. WR 350 484/B. J.W.N. 11-12-45.**

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* ✓

Description of fire extinguishing apparatus fitted. *Steam apparatus as per rule also 2-10 GALL. FORMITE. - 4 Fire Guns and 2-60 ft. lengths of hose*

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo. *TANKER* ✓ 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. *YES* ✓ If so, state name of vessel. *"NAVICELLA"* ✓

General Remarks (State quality of workmanship, opinions as to class, &c.)

The Machinery of this vessel has been constructed and fitted on board under special survey. The Materials and workmanship are good. Satisfactory Basin + Sea Trials were witnessed & the Machinery is eligible in our opinion for the record + LMC 03-46. and the notations T.S.C. - OIL ENG. Mach. life. 2-03-180 lb.

Original Reports etc attached

The amount of Entry Fee ... *£6*

Special ... *£100 : 2* When applied for *18/3/ 19 46*

Donkey Boiler Fee. *£4* When received *19*

STARTING AIR RECEIVER. *4*

Travelling Expenses (if any) *£0*

FRI. 12 APR 1946

R. J. Master
Engineer, Surveyor to Lloyd's Register of Shipping.



Lloyd's Register Foundation

(The Committee's Minute

Assigned *+ LMC 3.46 Oil Eng. C.L. 2DB 18016.*

NEWCASTLE-ON-TYNE

Certificate (if required) to be sent to

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