

REPORT ON OIL ENGINE MACHINERY.

No. 19559
23 NOV 1935

Received at London Office

Date of writing Report 22nd Nov 1935 When handed in at Local Office 22. 11. 1935 Port of Grimsey.

No. in Survey held at Lincoln. Date, First Survey 8th August Last Survey 21st Nov 1935
Reg. Book. Number of Visits 21

on the Single Screw vessel MOTOR TANKER "ETREMA" Tons Gross 6236
Triple
Quadruple Net 3606

Built at Rotterdam By whom built Pott Droogd My Yard No. 193 When built 1936

Engines made at Lincoln. By whom made Ruston + Hornsby, Ltd. Engine No. 177452 When made 1935

Donkey Boilers made at Rotterdam By whom made Pott Droogd My Boiler No. . When made ✓

Brake Horse Power 60. Owners Anglo-Saxon Petroleum Co. Ltd. Port belonging to Gravenhage

Nom. Horse Power as per Rule 18.6 Is Refrigerating Machinery fitted for cargo purposes ✓ Is Electric Light fitted ✓

Trade for which vessel is intended ✓ [One engine - Type 3VCRZ]

OIL ENGINES, &c. Type of Engines Airless injection, cold starting 2 or 4 stroke cycle 4 Single or double acting single.

Maximum pressure in cylinders 700 lbs. Diameter of cylinders 8" Length of stroke 10 3/4" No. of cylinders 3. No. of cranks 3.

Mean Indicated Pressure 81.5 lbs. Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 9 1/8" Is there a bearing between each crank yes.

Revolutions per minute 450 Flywheel dia. 3'-4" Weight 19 cwt Means of ignition Compressions and of fuel used Crude oil.

Crank Shaft, dia. of journals as approved. Crank pin dia. 4 3/4" Crank Webs Mid. length breadth 8" Thickness parallel to axis ✓
as fitted 6" Mid. length thickness 2 1/2" Thickness around eyehole ✓

Flywheel Shaft, diameter as approved. Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as per Rule
as fitted 6" as fitted as fitted

Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule Is the tube shaft fitted with a continuous liner ✓
as fitted as fitted as fitted

Bronze Liners, thickness in way of bushes as per Rule Thickness between bushes as per rule Is the after end of the liner made watertight in the
as fitted as fitted as fitted

propeller boss ✓ 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 ✓ If so, state type ✓ Length of Bearing in Stern Bush next to and supporting propeller ✓

Propeller, dia. ✓ Pitch ✓ No. of blades ✓ Material ✓ whether Moveable ✓ Total Developed Surface ✓ sq. feet

Method of reversing Engines ✓ Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes. Means of lubrication
Forced Thickness of cylinder liners 3/4" Are the cylinders fitted with safety valves yes. Are the exhaust pipes and silencers water cooled or lagged with
non-conducting material water 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. one. Is the sea suction provided with an efficient strainer which can be cleared within the vessel ✓

Bilge Pumps worked from the Main Engines, No. ✓ Diameter ✓ Stroke ✓ Can one be overhauled while the other is at work ✓

Pumps connected to the Main Bilge Line No. and Size
How driven

Is the cooling water led to the bilges ✓ 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 ✓ Power Driven 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, No. and size:—In Machinery Spaces ✓ In Pump Room ✓

In Holds, &c. ✓

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size ✓

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes ✓ 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 ✓

Are all Sea Connections fitted direct on the skin of the ship ✓ Are they fitted with Valves or Cocks ✓

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates ✓ Are the Overboard Discharges above or below the deep water line ✓

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel ✓ Are the Blow Off Cocks fitted with a spigot and brass covering plate ✓

What pipes pass through the bunkers ✓ 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 ✓

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 ✓ Is the Shaft Tunnel watertight ✓ 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 ✓

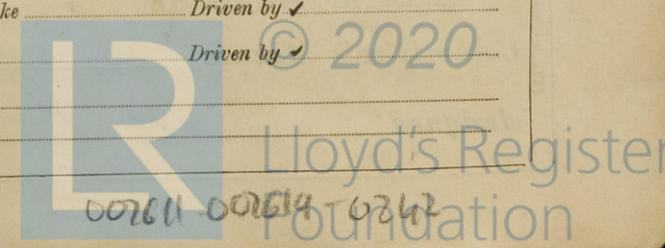
Main Air Compressors, No. ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓

Auxiliary Air Compressors, No. ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓

Small Auxiliary Air Compressors, No. ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓

Scavenging Air Pumps, No. ✓ Diameter ✓ Stroke ✓ Driven by ✓

Auxiliary Engines crank shafts, diameter as per Rule
as fitted



AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule?

Can the internal surfaces of the receivers be examined and cleaned? Is a drain fitted at the lowest part of each receiver?

High Pressure Air Receivers, No. *None* 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. *None* Total cubic capacity Internal diameter thickness

Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules Actual

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

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

PLANS. Are approved plans forwarded herewith for Shafting *11.11.32* Receivers Separate Tanks
(If not, state date of approval)

Donkey Boilers General Pumping Arrangements Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied? *Yes*

State the principal additional spare gear supplied

Muston & Hornby, Limited

The foregoing is a correct description,

R. Olions 18/11/35

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } *1935 Aug 8 22 29 Sep 5 12 16 19 26 Oct 3 10 11 15 22 24 28 31 Nov 7 11 14 18 21*
{ During erection on board vessel -- }
Total No. of visits *21*

Dates of Examination of principal parts—Cylinders *28.10.35* Covers *28.10.35* Pistons *24.10.35* Rods Connecting rods *4.9.35*

Crank shaft *15.10.35* Flywheel shaft *15.10.35* Thrust shaft Intermediate shafts Tube shaft

Screw shaft Propeller Stern tube Engine seatings Engines holding down bolts

Completion of fitting sea connections Completion of pumping arrangements Engines tried under working conditions *14.11.35*

Crank shaft, Material *Sm. steel* Identification Mark *3226 H.* Flywheel shaft, Material *Sm. steel* Identification Mark *3226 H.*

Thrust shaft, Material Identification Mark Intermediate shafts, Material Identification Marks

Tube shaft, Material Identification Mark Screw shaft, Material Identification Mark

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

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

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 *Grimes report No 18653, "Inchanga"*

Is this machinery duplicate of a previous case? *Yes* If so, state name of vessel *Same type, now 3 instead of 5 cylinders.*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The workmanship & materials are good.*

The engine has been built under Special Survey in accordance with the Rules & Approved plans.

Trials were carried out at the maker's works under brake load with satisfactory results.

The engine is being forwarded to Rotterdam to be fitted on board the vessel, & is to the order of Messrs. N. V. Rotterdamse Droogdok-Maatschappij, of Rotterdam.

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

Ref No PIV 5565.

The amount of Entry Fee .. £	When applied for,
Special £	19.
Donkey Boiler Fee <i>charged in the quantities of c.</i>	When received,
Travelling Expenses (if any)	19.

H. S. Fielditch
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI 22 MAY 1936*

Assigned *See Rot. JE 24512*