

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY

No. 161.

28 1938

Received at London Office

Date of writing Report 26-10-1938 When handed in at Local Office 19 Port of WINTERTHUR

No. in Survey held at WINTERTHUR. Date, First Survey 30-9-37 Last Survey 24-10-1938

Reg. Book. *S.S.D.* Number of Visits

on the ^{Single} ~~Twin~~ ^{Triple} ~~Quadruple~~ Screw vessel **MV. "KYLE FISHER"** Tons ^{Gross} 608 _{Net} -

Built at HEUSDEN By whom built DE HAAN AND OERLEMANS Yard No. 205 When built 1938

Engines made at WINTERTHUR By whom made SULZER BROS. Engine No. 23203 When made 1938

Donkey Boilers made at ✓ By whom made ✓ Boiler No. ✓ When made ✓

Brake Horse Power 500 ✓ Owners JAMES FISHER AND SONS LD. Port belonging to BARROW-IN-FURNESS.

Nom. Horse Power as per Rule 114 ✓ Is Refrigerating Machinery fitted for cargo purposes ✓ Is Electric Light fitted ✓

Trade for which vessel is intended ✓

OIL ENGINES, &c.—Type of Engines **SULZER SOLID INJECTION** 2 or 4 stroke cycle 2 Single or double acting **SINGLE**.

Maximum pressure in cylinders 860 LB/IN² ✓ Diameter of cylinders 290 MM. Length of stroke 500 MM. No. of cylinders 5 No. of cranks 5

Mean Indicated Pressure 80 LB/IN² ✓

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 325 MM. ✓ Is there a bearing between each crank YES ✓

Revolutions per minute 300 ✓ Flywheel dia. 1040 MM. Weight 1600 Kg. Means of ignition **COMPRESSION** Kind of fuel used **HEAVY OIL**.

Crank Shaft, ^{Solid forged} ~~Semi-built~~ ^{All built} dia. of journals as per Rule 175 MM. Crank pin dia. 190 MM. Crank Webs Mid. length breadth 300 MM. Thickness parallel to axis ✓
Mid. length thickness 95 MM. Thickness around eyehole ✓

Flywheel Shaft, diameter as per Rule 175 MM. Intermediate Shafts, diameter as per Rule 122 MM. Thrust Shaft, diameter at collars as per Rule 129 MM.
as fitted 190 MM. as fitted 190 MM.

Tube Shaft, diameter as per Rule ✓ **Screw Shaft**, diameter as per Rule ✓ Is the ^{tube} ~~screw~~ shaft fitted with a continuous liner ✓

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 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 **DIRECT** ✓ Is a governor or other arrangement fitted to prevent racing of the engine when declutched YES ✓ Means of lubrication **FORCED**

Thickness of cylinder liners 21 MM. 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 D.A. 85 MM X 160 MM STROKE Is the sea suction provided with an efficient strainer which can be cleared within the vessel ✓

Bilge Pumps worked from the **Main Engines**, No. 1 D.A. Diameter 85 MM. Stroke 160 MM. 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 1 - **GEAR WHEEL PUMP** 39 M³/HR.

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 ✓ 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 ✓

Are they from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges ✓

39 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 ✓

TARTING **Auxiliary Air Compressors**, No. 1 ✓ No. of stages 1. Diameters 95 MM. Stroke 300 MM. Driven by **MAIN ENGINE** ✓

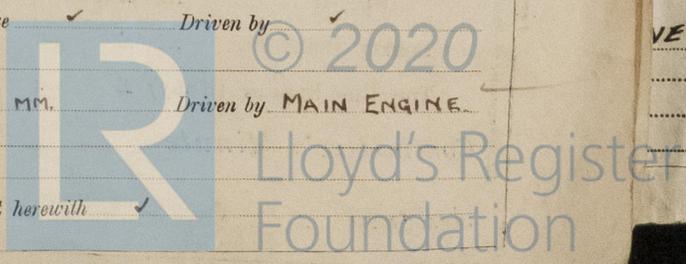
Small Auxiliary Air Compressors, No. ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓

Is that provision made for first Charging the Air Receivers ✓

Scavenging Air Pumps, No. 1 D.A. **TANDEM** ✓ Diameters 550 MM + 450 MM. Stroke 300 MM. Driven by **MAIN ENGINE** ✓

Auxiliary Engines crank shafts, diameter as per Rule ✓ No. ✓ Position ✓
as fitted ✓

Are the Auxiliary Engines been constructed under special survey ✓ Is a report sent herewith ✓



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AIR RECEIVERS:—Have they been made under survey YES State No. of Report or Certificate DUSSELDORF 1497 + 1498

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 1000 LITRES Internal diameter 465 mm. thickness 17.5 mm.
Seamless, lap welded or riveted longitudinal joint LAP WELDED Material S.M. STEEL Range of tensile strength Working pressure by Rules APPD 40ATS 10 Actual 30 ATS

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 8-7-38 Receivers 10-12-36 Separate Fuel Tanks

Donkey Boilers General Pumping Arrangements Pumping Arrangements in Machinery Space
Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied YES

State the principal additional spare gear supplied SEE SEPARATE LIST.

The foregoing is a correct description, *De Haan & Oerlema* Manufacturer.

Dates of Survey while building: During progress of work in shops -- 30-9-37 TO 24-10-38 12 VISITS.
During erection on board vessel --
Total No. of visits

Dates of Examination of principal parts—Cylinders 3-10-38 Covers { 3-10-38 24-10-38 } Pistons 16-11-37 Rods { 26-10-37 4-3-38 } Connecting rods
Crank shaft 3-10-38 Flywheel shaft 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 SHOP TRIAL 3-10-38
Crank shaft, Material S.M. STEEL Identification Mark PK 10014 PK 17-12-1937 Flywheel shaft, Material Identification Mark
Thrust shaft, Material Identification Mark Intermediate shafts, Material Identification Marks
Tube shaft, Material Identification Mark Screw shaft, Material Identification Mark
Identification Marks on Air Receivers 1497 1498
L.S. 15-10-37 L.S. 15-10-37.

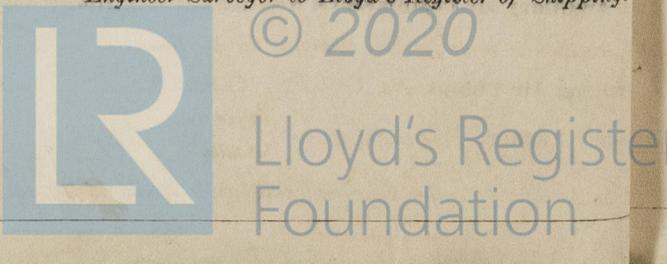
Is the flash point of the oil to be used over 150° F.
Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo If so, have the requirements of the Rules been complied with
If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with
Is this machinery duplicate of a previous case If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c. This engine has been constructed under special survey in accordance with the requirements of the Rules the Secretary's letters, and the approved plans. Materials and workmanship are good. Full power trials of the engine in the shop were satisfactory. The engine has been despatched to Messrs. De Haan and Oerlema's Heusden for installation in the vessel.

The amount of Entry Fee .. £ 75.- :
Special £ 75.- :
Donkey Boiler Fee ... £ :
Travelling Expenses (if any) £ :
When applied for, Monthly 19. Account. When received, 19.

J. N. Buchanan
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE 6 JUN 1939
Assigned See PE machy vll.



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