

Rpt. 4b.

## REPORT ON OIL ENGINE MACHINERY.

No. 6236

Date of writing Report 3rd Oct 1937 When handed in at Local Office 28/10/1937 Port of Yokohama

Received at London Office

NOV 26 1937

No. in Survey held at Yokohama

Date, First Survey 3rd June 1936 Last Survey 22nd Oct 1937.

Reg. Book.

Number of Visits 103.

Single  
on the Twin  
Triple  
Quadruple

Screw vessel

M.V. "YUKAGIR"

Tons Gross 1435  
Net 860.

Built at Yokohama

By whom built Yokohama Dock

Yard No. 264 When built 1937

Engines made at Yokohama

By whom made Mitsubishi J. K. K. Yokohama Dock Engine No. 264 When made 1937

Donkey Boilers made at Yokohama

By whom made Mitsubishi J. K. K. Yokohama Dock Boiler No. 264 When made 1937

Brake Horse Power 800

Owners Union of Soviet Socialist Republics Port belonging to MURMANSK.

Nom. Horse Power as per Rule 185

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

Trade for which vessel is intended Carrying Petroleum in bulk.

OIL ENGINES, &amp;c.—Type of Engines Mitsubishi M.A.N. 2 3/4 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 50 kg/cm<sup>2</sup> Diameter of cylinders 450 mm Length of stroke 600 mm No. of cylinders 6 No. of cranks 6

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 590 mm Is there a bearing between each crank Yes.

Revolutions per minute 225 Flywheel dia. 1800 mm Weight 4260 kg Means of ignition Solid Kind of fuel used Crude Oil

Crank Shaft, dia. of journals as per Rule 260 mm as fitted 270 mm Crank pin dia. 270 mm Crank Webs Mid. length breadth 380 mm Thickness parallel to axis shrunk Thickness around eye hole

Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule as fitted 175 mm Vulcan Coupling Shaft as per Rule as fitted 300 mm

Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as fitted 200 9 185 mm Is the screw shaft fitted with a continuous liner Yes.

Bronze Liners, thickness in way of bushes as per Rule as fitted 15 mm Thickness between bushes as fitted 12 mm 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

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 1000 mm

Propeller, dia. 2600 mm Pitch 14265 mm No. of blades 4 Material Chrome Nickel whether Moveable Yes Total Developed Surface 2.04 m<sup>2</sup>

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 29 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with

non-conducting material Lagged 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 Yes

Bilge Pumps worked from the Main Engines, No. One Diameter 95 mm Stroke 210 mm Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line No. and Size 1-50 M<sup>3</sup>/hr. 1-30 M<sup>3</sup>/hr. 1-16 M<sup>3</sup>/hr.

How driven Motor Motor main engine

Ballast Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size 1-5 M<sup>3</sup>/hr. 1-4.5 M<sup>3</sup>/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 3-60 mm, 2-65 mm, 2-50 mm, 1-120 mm In Pump Room

In Holds, &amp;c. 2-52 mm, each cofferdam 1-50 mm dia.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-120 mm 1-65 mm

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 Yes

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 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 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. Two No. of stages Two Diameters 60 &amp; 145 mm Stroke 100 mm Driven by Generator Engines

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

Small Auxiliary Air Compressors, No. One No. of stages Two Diameters 45 &amp; 95 mm Stroke 95 mm Driven by Hand

Scavenging Air Pumps, No. Diameter Stroke Driven by

Auxiliary Engines crank shafts, diameter as per Rule as fitted 105 mm

AIR RECEIVERS:—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

High Pressure Air Receivers, No. Cubic capacity of each Internal diameter thickness

Seamless, lap welded or riveted longitudinal joint Material 2C 1500 LITRES Range of tensile strength 2C 740 mm Working pressure Actual 2C 16 mm

Starting Air Receivers, No. Four Total cubic capacity 1C 35 Internal diameter 1C 550 mm thickness 1C 14 &amp; 1C 7.5 mm

Seamless, lap welded or riveted longitudinal joint Riveted Material Steel Range of tensile strength 41-47 kg/cm<sup>2</sup> Working pressure Actual 30 kg/cm<sup>2</sup>

Water Capacity.

Tons.

28.4

40.5

33.7

33.



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 16/3/36, 11-11-36

Receivers 7/6, 2/10, 28/8/36

Separate Tanks 21/9, 9/9, 8/10, 19/10/36

Donkey Boilers 23-6-36

General Pumping Arrangements 14/9, 30/10, 23/1/37

Oil Fuel Burning Arrangements 22-1-37

SPARE GEAR.

Has the spare gear required by the Rules been supplied

yes

State the principal additional spare gear supplied

Please see attached list.

The foregoing is a correct description,

Z. Adachi

Manufacturer.

Dates of Survey while building  
During progress of work in shops-- 3, 9, 15, 30/6, 6/7, 4, 11, 27, 31/8, 3, 6, 9, 23, 24/10, 14, 17, 28/11, 7, 9, 10, 17, 23/12/36, 8, 12, 13, 14, 16, 19, 21, 25/1, 6, 8, 9, 15, 17, 23, 24/2/37, 2, 6, 9, 14, 17, 18, 19, 24, 29/3, 2, 5, 8, 10, 16, 24, 28/4, 3, 7, 10, 11, 15, 18, 19, 20, 25/2/37, 28, 31/5, 1, 2, 4, 8, 9, 10, 14, 15, 18, 19/6, 23, 25, 24/6, 2, 5, 6, 8, 14, 16, 29, 31/7, 18/8, 8/9, 11/9/37.  
During erection on board vessel--  
Total No. of visits 103.

Dates of Examination of principal parts--Cylinders 27/3, 7, 19/5/37 Covers 20/8/37 Pistons 25, 27/6/37 Rods Connecting rods 3, 9/6, 4/8/36

Crank shaft 6-7-37 Crank shafts 12-7-37 Thrust shaft Intermediate shafts 6-7-37 Tube shaft

Screw shaft 6-7-37 Propeller 6-7-37 Stern tube 9/2, 6/7/37 Engine seatings 7-7-37 Engines holding down bolts 10/7, 20/7/37

Completion of fitting sea connections 4-7-37 Completion of pumping arrangements 9-9-37 Engines tried under working conditions 16-9-37

Crank shaft, Material Steel Identification Mark H.D.B. 24/12/36  
Vulcan gear shafts Steel Identification Mark Lloyd's No. 6117A+B  
Spare tail shaft Material Steel Identification Mark Lloyd's No. 1680B  
Intermediate shafts, Material Steel Identification Mark Lloyd's No. 1796  
Screw shaft, Material Steel Identification Mark Lloyd's No. 1680B  
K.K. 6-7-37

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

yes

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 NENETS. Report now forwarded.

General Remarks (State quality of workmanship, opinions as to class, &c.) The machinery of this vessel has been built under special survey in accordance with the Rules & approved plans materials & workmanship good.

On completion of fitting out all tried under full working conditions with satisfactory results. Vulcan gear coupling is fitted to this engine and found in order when tested on trials

The machinery of this vessel is eligible in our opinion to be classed LHC 10-37, oil engines.

The amount of Entry Fee .. £ 3 : 0 :  
Special ... £ 57 : 16 :  
Donkey Boiler Fee ... £ 7 : 18 :  
Travelling Expenses (if any) 10 10 :  
When applied for, 19-10-37  
When received, 14/2/38

Committee's Minute  
Assigned + Lamb 10.37  
DB 121th  
oil eng. Cl

J. Milne & Co. Engineer Surveyor to Lloyd's Register of Shipping.

Lloyd's Register Foundation