

a List of

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 15200B

JUN -7 1938

Received at London Office

Date of writing Report 20 May 1938 When handed in at Local Office 19 Port of Amsterdam
No. in Survey held at Amsterdam Date, First Survey 15 June 1934 Last Survey 20 May 1938
Reg. Book. Number of Visits 56

on the Single Twin Triple Quadruple Screw vessel "M.V. OPALIA"

Tons { Gross 6145
Net 3596

Built at Amsterdam By whom built Nederl dock Co Yard No. 67 When built 1930
Engines made at Amsterdam By whom made N.V. Werkspoor Engine No. 707 (see letter) ~~706~~ When made 1930
Donkey Boilers made at Flushing By whom made Kon Maats De Schelde Boiler No. 1043 When made 1930
Brake Horse Power 2800 Owners Anglo Saxon Petroleum Co Port belonging to London
Nom. Horse Power as per Rule 377 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes
Trade for which vessel is intended Ocean trade

OIL ENGINES, &c.—Type of Engines Diesel outlet inlet supercharged or 4 stroke cycle 4 Single or double acting single

Maximum pressure in cylinders 700 LBS Mean Indicated Pressure 135 LBS Diameter of cylinders 650 mm Length of stroke 1400 No. of cylinders 6 No. of cranks 6

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 844 mm Is there a bearing between each crank yes

Revolutions per minute 120 Flywheel dia. 2260 Weight 6000 kg Means of ignition spark Kind of fuel used Diesel oil

Crank Shaft, { Solid forged dia. of journals as per Rule approved as fitted 460 mm Crank pin dia. 460 mm Crank Webs Mid. length breadth 270 mm Thickness parallel to axis shrunk Mid. length thickness 290 mm Thickness around eyehole shrunk

Flywheel Shaft, diameter as per Rule approved as fitted 500/340 mm Intermediate Shafts, diameter as per Rule approved as fitted 350 mm Thrust Shaft, diameter at collars as per Rule approved as fitted 340 mm

Tube Shaft, diameter as per Rule approved as fitted 370 mm Is the shaft fitted with a continuous liner { yes }

Bronze Liners, thickness in way of bushes as per Rule approved as fitted 19.5 mm Thickness between bushes as per Rule approved as fitted 15 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 no

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 no

If two liners are fitted, is the shaft lapped or protected between the liners no Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft no

Length of Bearing in Stern Bush next to and supporting propeller 1480 mm

Propeller, dia. 4270 Pitch 3500 mm No. of blades 4 Material Bronze whether Moveable no Total Developed Surface 62 sq. feet

Method of reversing Engines By Air Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication forced

Thickness of cylinder liners 55 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material no

If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine funnel

Cooling Water Pumps, No. 3 Salt 2 fresh water 1 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. 2 Diameter Rotary 35 l/hour Stroke 100 mm Can one be overhauled while the other is at work yes

Pumps connected to the Main Bilge Line { No. and Size 2 rotary 35 l/hour 1 duplex 2" x 2" x 10" How driven main engine steam driven

Is the cooling water led to the bilges overboard If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements no

Ballast Pumps, No. and size 1 - 2" x 2" x 10" Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 rotary 40 l/hour 1 duplex 2" x 2" x 10"

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 5 - 3 1/2" In Pump Room 2 x 3"

In Holds, &c. Cofferdam for aft 1-4" each Fore hold pump room 5-2"

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 - 6 5/16" and 1 - 5"

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 valves & cocks

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 Suction pipe from cofferdam aft How are they protected heavy steel pipe with valves chest

What pipes pass through the deep tanks no Have they been tested as per Rule no

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 no Is it fitted with a watertight door no worked from no

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork no

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

Auxiliary Air Compressors, No. 2 No. of stages 2 Diameters 206 - 100 mm Stroke 160 mm Driven by one by steam engine one by Diesel engine

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

What provision is made for first Charging the Air Receivers 1 Air compr driven by steam engine

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

Auxiliary Engines crank shafts, diameter as per Rule approved as fitted 6" Position Ruston Hornsby, Kromhout 110 mm Position Ruston Hornsby, Port in Rotterdam

Have the Auxiliary Engines been constructed under special survey yes Is a report sent herewith yes

B.S.B. 8-6-38



011330-01340-0227

AIR RECEIVERS:—Have they been made under survey *Yes* ✓ Are reports or certificates now forwarded *4392, 4393* ✓
 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 *2.000* cub feet Internal diameter *14.95* in *M* ✓ thickness *2.1* in *M* ✓
 Seamless, lap welded or riveted longitudinal joint *welded* ✓ Material *SMS* ✓ Range of tensile strength *24.75-24* Working pressure by Rules *approved*
 Actual *350488*

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 *Yes* ✓

PLANS. Are approved plans forwarded herewith for Shafting *E 29-137 x 22-4-37* Receivers *E 25-11-1937* ✓ Separate Fuel Tanks *✓*
 (If not, state date of approval)
 Donkey Boilers *✓* General Pumping Arrangements *E 20-4-37* ✓ Pumping Arrangements in Machinery Space *E 20-4-37* ✓
 Oil Fuel Burning Arrangements *E 21-5-30*

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,

WERKSPOR N.V.

Shippol Manufacturer.

Dates of Survey while building
 During progress of work in shops— *June 15-19 July 19-20 Aug 13-20-20 Sept 7-20 Oct 4-14-10 Nov 8-15-20-25-27 Dec 4-11-17-24*
 During erection on board vessel— *Jan 8-12-13-14-17-19 Feb 8-12-15-16-18 March 2-3-5*
 Total No. of visits *56*

Dates of Examination of principal parts—Cylinders *7 Sept 24 Dec* Covers *24 Dec 12 Feb* Pistons *20 Nov 2-15 Feb* Rods *17 Dec 2-10* Connecting rods *10 Feb 2 Mar*
 Crank shaft *17 Dec 18 Feb* Flywheel shaft *7 Sept 10 Feb* Thrust shaft *4 Dec 19 Jan* Intermediate shafts *21 Feb 26 Oct 10* Tube shaft *✓*
 Screw shaft *12-1-30* Propeller *5-3-30* Stern tube *8-1-30 18-2-30* Engine seatings *2-3-30* Engines holding down bolts *10-4-30*

Completion of fitting sea connections *3-3-30* Completion of pumping arrangements *10-5-30* Engines tried under working conditions *✓*
 Crank shaft, Material *SMS* Identification Mark *113 P. 1139 440405* Flywheel shaft, Material *SMS* Identification Mark *9886 240405*
 Thrust shaft, Material *SMS* Identification Mark *53 12-5-37 4385* Intermediate shafts, Material *SMS* Identification Marks *4385 440405*
 Tube shaft, Material *✓* Identification Mark *4PB 3-1-30* Screw shaft, Material *SMS* Identification Mark *4PB 12-1-30 4386 440405*

Is the flash point of the oil to be used over 150° F. *Yes* ✓ Spare *SMS 4386 440405 4PB 12-1-30*
 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 *oil 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 *M.V. ONOBA Ans up 15126*
General Remarks (State quality of workmanship, opinions as to class, &c.)

The Machinery have been constructed under special survey to approved plans in accordance with the rules. Secretary's letters Material & workmanship good.

Tested engines whilst on her trial trip on the North Sea making good.

She is eligible in our opinion for approval of the Committee to be recorded as I.M.C. 5-30 oil engines C.T. with continuous Survey on request.

The amount of Entry Fee .. *60-* : When applied for, *4-5-1938*
 Special .. *970.60* :
 Donkey Boiler Fee .. *102-* :
 Travelling Expenses (if any) .. *36-* :
 Committee's Minutes
 Assigned *+ dmb 5-38*
S.B. -180th

[Signature]
 Engineer Surveyor to Lloyd's Register of Shipping.



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