

REPORT ON OIL ENGINE MACHINERY.

No. 9647.

Received at London Office - 6 JUL 1935

Writing Report 26 June 1935 When handed in at Local Office 19 Port of Copenhagen
Survey held at Copenhagen Date, First Survey 13th August 1934 Last Survey 20th June 1935
Number of Visits 70

on the ^{Single} ~~Twin~~ ~~Triple~~ ~~Quadruple~~ TANK "PETTER" Tons Gross 9109.35 Net 5543.37
Screw vessel
By whom built Aps. Burmeister & Wain's Yard No. 613 When built 1935
By whom made The builders Engine No. 2340/1883 When made 1935
Boilers made at Copenhagen By whom made The builders Boiler No. 1884 When made 1935
Horse Power 2 x 1850 Owners P/S Jensen Rederi III Port belonging to Arendal
Horse Power as per Rule 84 807 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes
for which vessel is intended Carrying Petroleum in bulk. Ocean trade.

ENGINES, &c. Type of Engines Vertical Diesel oil engines, Solid injection, 2 or 4 stroke cycle 2 Single or double acting single
Mean pressure in cylinders 49 kg/cm² Diameter of cylinders 500 mm Length of stroke 900 mm No. of cylinders 2 x 6 No. of cranks 2 x 6
Indicated Pressure 6.8 kg/cm² Flywheel dia. 1916 mm Weight 3500 kg
Revolutions per minute 145 Crank pin dia. 115 mm central hole crank Webs Mid. length breadth 800 mm Thickness parallel to axis 208 mm
Shaft, dia. of journals as per Rule 326 mm as fitted 340 mm Crank pin dia. 115 mm central hole crank Webs Mid. length thickness 188 mm Thickness around eye-hole 165 mm
Propeller Shaft, diameter as per Rule 9.53" as fitted 9.75" Thrust Shaft, diameter at collars as per Rule 254 mm as fitted 300 mm
Screw Shaft, diameter as per Rule 10.5" as fitted 10.75" Is the shaft fitted with a continuous liner yes

Liners, thickness in way of bushes as per Rule 0.62" as fitted 0.75" Thickness between bushes as per rule 0.47" as fitted 0.5" Is the after end of the liner made watertight in the stern tube yes
If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner yes
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 yes
If 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 yes
If so, state type Length of Bearing in Stern Bush next to and supporting propeller 4'-1"

Propeller, dia. 12'-0" Pitch 9'-3" No. of blades 3 Material bronze whether Moveable no Total Developed Surface 34 sq. feet
Method of reversing Engines hand reversible Is a governor or other arrangement fitted to prevent racing of the engine when de-clutched yes Means of lubrication oil
Thickness of cylinder liners 36 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with lagging 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 to funnel
Suction Water Pumps, No. 2 off - 120 l/min each Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes
Pumps worked from the Main Engines, No. 2 off Diameter 150 mm Stroke 175 mm Can one be overhauled while the other is at work yes
Pumps connected to the Main Bilge Line No. and Size 2 off engine bilge pumps 2 bilge sanitary pumps 1 Ballast pump duplex 7 1/2" x 10 1/4" x 12" How driven 27 l/min each electrically by steam.

Is 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
Suction Pumps, No. and size 1 off duplex 7 1/2" x 10 1/4" x 12" Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 off 95 l/min each
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 off 3 1/2" From coffee dam 2 off 1 1/2" (on oil fuel suction line In Pump Room 1 off 3 1/2"
Holds, &c. 2 off 2 1/2" after coffee dam 1 off 3" forward coffee dam 1 off 3 1/2" Forward pump room 1 off 2" Forward deck 1 off 1 1/2"
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2 off 3" (bilge pumps) 1 off 8" (Ballast pumps)

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes Are the Bilge Suctions in the Machinery Spaces 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
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
Are all pipes pass through the bunkers none How are they protected
Are all pipes pass through the deep tanks none 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 no known Is it fitted with a watertight door worked from
If the vessel is a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork
Auxiliary Air Compressors, No. 2 off No. of stages 2 Diameters 200 - 250 mm Stroke 190 mm Driven by Auxiliary engine
Small Auxiliary Air Compressors, No. 1 off No. of stages 2 Diameters 75 - 30 mm Stroke 95 mm Driven by steam
Suctioning Air Pumps, No. 2 off rotary type Diameter 2 x 88 mm Stroke per minute Driven by main engine
Auxiliary Engines crank shafts, diameter as per Rule 130 mm as fitted 150 mm No. 2 off Position Engine room floor level P.S.

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* ✓
EMERGENCY High Pressure Air Receivers, No. *1 off* Cubic capacity of each *100 litres* Internal diameter *305 mm* thickness *6.5 mm*
 Seamless, lap welded or riveted longitudinal joint *seamless* Material *Stainless Steel* Range of tensile strength *28-32 tons/cm²* Working pressure by Rules *38 kg/cm²* Actual *28 ATM.*

Starting Air Receivers, No. *1 off* Total cubic capacity *350 cbf.* Internal diameter *6'* thickness *Stainless Steel 1 3/16"* ✓
 Seamless, lap welded or riveted longitudinal joint *3 riveted* Material *S. Ct. Steel* Range of tensile strength *28-32 tons* Working pressure by Rules *27.2 kg/cm²* Actual *25 ATM.*
IS A DONKEY BOILER FITTED? *yes 2 off* 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 *yes* Receivers *yes* Separate Fuel Tanks *yes*
 Donkey Boilers *yes* General Pumping Arrangements *yes* Pumping Arrangements in Machinery Space *yes*
 Oil Fuel Burning Arrangements *no*

SPARE GEAR.

Has the spare gear required by the Rules been supplied *yes*
 State the principal additional spare gear supplied *1 Spare propeller shaft & 2 cast iron spare propellers.*

The foregoing is a correct description,
AKRESELSKABET
 p. pa. **BURMEISTER & WAINSKIN-OG SKIBSBYGGERI** Manufacturer.

Dates of Survey while building: During progress of work in shops - Aug: 13, 21, Sept: 4, Oct: 14, 19, 23, 30, Dec: 4, 8, 15, 21, 28, 31, 1934 Jan: 27, 31, Feb: 4, 13, 21, March: 1, 4, 6, 7, 8, 11, 23, 27, April: 5, 8, 10, 23, 27, 29 May: 2, 4, 6, 7, 8, 9, 13, 14, 18, 21, 25, 1935
 During erection on board vessel - Feb: 29, March: 29, 30, April: 1, 11, 16, 26, 30 May: 7, 8, 10, 15, 22, 23, 27, 29, 31 June: 1, 8, 12, 14, 15, 17, 20.
 Total No. of visits *70.*
 Dates of Examination of principal parts—Cylinders *29/5-29/5* Covers *29/5-8/4-23/4-2/5* Pistons *4/2-13/2-4/3-4/3* Rods *3/12-10/1-4/3* Connecting rods
 Crank shaft *8/1-2/2-8/3* Flywheel shaft *-* Thrust shaft *18/2-8/1-10/1-2/2-8/3* Intermediate shafts *19/11-30/11-4/2-30/3* Tube shaft
 Screw shaft *14/1-23/11-4/2-8/2-30/3* Propeller *7/5-8/5* Stern tube *29/5-30/3-10/4* Engine seatings *26/4-30/4* Engines holding down bolts *27/5-31/5*
 Completion of fitting sea connections *1/4-10/4-8/5* Completion of pumping arrangements *26/4-30/4-12/14* Engines tried under working conditions *17/6-20/6*
 Crank shaft, Material *S. Ct. Steel* Identification Mark *21.2.35* Engines *LLOYD'S M 2536-37 & 38*
 Thrust shaft, Material *S. Ct. Steel* Identification Mark *21.2.35* Intermediate shafts, Material *S. Ct. Steel* Identification Marks *4.30.3.35*
 Tube shaft, Material *-* Identification Mark *-* Screw shaft, Material *S.M.Y. Steel* Identification Mark *BN.10.4.35*

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 *-* 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/S MOSVOLD B. H. YARD Nr 612 (Copenhagen Report No 9558)*

General Remarks (State quality of workmanship, opinions as to class, &c. *The above machinery and its accessories has been constructed and fitted on board under Special Survey in accordance with the Rules, the approved plans and the requirements contained in the Surveyor's letters E dated 4/6-14/8-29/8-2/8-2/11-34 & 1/4-35. The material used in construction has been tested as required by the Rules either by us or as per certificates issued by surveyors to this Society. The workmanship is of good description throughout.*

On completion the whole installation including the cargo oil pumping arrangement with boiler etc. was tested under working conditions and found to work satisfactorily and on the trial trip the manoeuvring of the engines was tested and found good. Maximum speed 12.4 knots, corresponding IHP = 4720. Interim certificate issued as per copy. Recommend the vessel's machinery to have notation of **L.M.C.-6.35, OIL ENGINES C.L. and 2.O.B. 180 lb.**

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|------------------------------|-----------|-------------------|------------|
| The amount of Entry Fee | £ 134.40 | When applied for, | 5.7.19.35 |
| Special | £ 2588.02 | When received, | 26.8.19.35 |
| STARTING AIR RECEIVER | £ 94.08 | | |
| FITTING Donkey Boilers | £ 30p. 00 | | |
| Travelling Expenses (if any) | £ 17.50 | | |

Steniloff-Lollaasen
 Engineer-Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI. 12 JUL 1935**

FRI. 23 AUG 1935

Assigned *+L.M.C. 6.35 Oil Engines C.L. 2.O.B.-180 lbs.*



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