

REPORT ON OIL ENGINE MACHINERY

No. 1341 C.

Received at London Office 23 MAR 1931

Rpt. 4b

Date of writing Report 25th March 31 When handed in at Local Office

Port of Pirium

No. in Survey held at 4mdm

Date, First Survey 5 Nov. 1930 Last Survey 20th March 1931

Reg. Book.

Number of Visits 15

1067 on the Single Twin Triple Screw vessel "J.H. SENIOR"

Tons Gross 11900 Net

Built at 4mdm

By whom built Verin Lohr Norddeutsche Yard No. 173 When built 1930/31

Engines made at Kiel

By whom made Fried. Schupp-Germania works a.g. Engine No. 3886 When made 1930

Donkey Boilers made at Kiel

By whom made Fried. Schupp-Germania works a.g. Boiler No. 3798 When made 1930

Indicated Horse Power 2 x 2500

Owners Kallinck. Am. exk. Petroleum Import & M. B. Port belonging to Danzig

Nom. Horse Power as per Rule 1496

Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended Ocean going carrying Petroleum in bulk.

MAIN ENGINES, &c. Type of Engines *Direct engine - 4 stroke cycle* 2 Single or double acting *single*

Maximum pressure in cylinders *35 kg/cm²* Diameter of cylinders *680 mm.* Length of stroke *1300 mm.* No. of cylinders *2 x 6* No. of cranks *2 x 6*

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge *1010 mm.* Is there a bearing between each crank *Yes*

Revolutions per minute *90* Flywheel dia. *2300 mm* Weight *9000 kgs.* Means of ignition *Direct principle* Kind of fuel used *Direct Oil*

Crank Shaft, dia. of journals *as per Rule 450 mm* Crank pin dia. *450 mm* Crank Webs *Mid. length breadth 275/R425* Thickness parallel to axis *280 mm*

Flywheel Shaft, diameter *as per Rule 440 mm* Intermediate Shafts, diameter *as per Rule 345 mm* Thrust Shaft, diameter at collars *as fitted 440 mm*

Tube Shaft, diameter *as per Rule 380 mm* Screw Shaft, diameter *as fitted 380 mm* Is the tube shaft fitted with a continuous liner *Yes*

Bronze Liners, thickness in way of bushes *as per Rule 19 mm.* Thickness between bushes *as per rule 14 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 *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 two liners are fitted, is the shaft lapped or protected between the liners *Yes* 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 *1520 mm*

Propeller, dia. *4876 mm* Pitch *5025 mm* No. of blades *3* Material *bronze* whether Movable *Yes* Total Developed Surface *7* sq. meters

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 *50 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 *Yes*

Cooling Water Pumps, No. *2 fly wheel each 320 m³/hour* 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. *none* Diameter *-* Stroke *-* Can one be overhauled while the other is at work *Yes*

Pumps connected to the Main Bilge Line { No. and Size *2 - 100 m³/hour, 1 - 100 m³/hour* How driven *electrically by steam*

Ballast Pumps, No. and size *2 - 100 m³/hour each* Lubricating Oil Pumps, including Spare Pump, No. and size *only 22 m³/hr of rotary type 1 spare - 40 m³/hour*

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 *1 - 150 mm, 2 - 180 mm, 7 - 90 mm dia., 1 in after plate 150 mm, 1 in fore plate 140 mm dia., in Holds, &c. in each hold 1 - 260 mm, 1 - 150 mm, in each stummum tank 1 - 150 mm, fore plate tank 1 - 100 mm, chain locker 2 - 100 mm*

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size *1 - 260 mm, 1 - 150 mm boiler shell 2 - 60 mm dia.*

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 *both*

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 *none* How are they protected *Yes*

What pipes pass through the deep tanks *none* Have they been tested as per Rule *Yes*

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 *Yes* Is it fitted with a watertight door *Yes* worked from *Yes*

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. *one on each engine* No. of stages *3* Diameters *800/700/176 mm* Stroke *900 mm* Driven by *Main engine*

Auxiliary Air Compressors, No. *2* No. of stages *3* Diameters *320/280/80 mm* Stroke *300 mm* Driven by *Aux. engine*

Small Auxiliary Air Compressors, No. *1* No. of stages *2* Diameters *180/60 mm* Stroke *160 mm* Driven by *Steam engine*

Scavenging Air Pumps, No. *3 on each main engine* Diameter *800 mm* Stroke *1300 mm* Driven by *Main engine*

Auxiliary Engines crank shafts, diameter *as per Rule 167 mm* *as fitted 175 mm, crank pins 170 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 *Yes* What means are provided for cleaning their inner surfaces *covered*

Is there a drain arrangement fitted at the lowest part of each receiver *Yes*

High Pressure Air Receivers, No. *2* Cubic capacity of each *300 litres* Internal diameter *400 mm* thickness *18 mm*

Seamless, lap welded or riveted longitudinal joint *seamless* Material *S.M. Steel* Range of tensile strength *46-52 kg/cm²* Working pressure by Rules *93 kg/cm²*

Starting Air Receivers, No. *5* Total cubic capacity *5 x 2700 litres* Internal diameter *1120 mm* thickness *36 mm*

Seamless, lap welded or riveted longitudinal joint *seamless* Material *S.M. Steel* Range of tensile strength *46-52 kg/cm²* Working pressure by Rules *74 kg/cm²*

1 seamless for whistle riveted cubic capacity 2500 litres Range of tensile strength *41-47 kg/cm²* Working pressure by Rules *12 kg/cm²*

Vertical text on the right margin: 2401-2409-0054

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded? *yes*

PLANS. Are approved plans forwarded herewith for Shafting *yes* 9/5/30
(If not, state date of approval)

Receivers *16/7/30, 4/1/30, 24/12/29* Separate Tanks

Donkey Boilers *14/5/30*

General Pumping Arrangements *27/9/30*

Oil Fuel Burning Arrangements *10/12/30*

SPARE GEAR *All articles as required by Section 6 page 117 of the Rules for Construction and Survey of Diesel Engines and their Auxiliaries (1929-1930) have been supplied.*

The foregoing is a correct description,

(Please see Hamburg Surveyor Report No. 19576).

Manufacturer.

Dates of Survey while building { During progress of work in shops - - }
{ During erection on board vessel - - }
Total No. of visits *15*
1930: - Nov. 5, 1931: - Jan 15, 29, February 2, 6, 12, 13, 26, 27, March 5, 6, 11, 12, 19 20.

Dates of Examination of principal parts—Cylinders *15/1/31* Covers *15/1/31* Pistons *15/1/31* Rods *15/1/31* Connecting rods *15/1/31*
Crank shaft *6x13/2/31* Flywheel shaft *6x13/2/31* Thrust shaft *6x13/2/31* Intermediate shafts *6x13/2/31* Tube shaft
Screw shaft *5/11/31* Propeller *5/11/31* Stern tube *5/11/31* Engine seatings *5/11/31, 29/1/31* Engines holding down bolts *6x13/2/31*

Completion of filling sea connections *15/1/31* Completion of pumping arrangements *20/2/31* Engines tried under working conditions *20/3/31*
Crank shaft, Material *J. M. Steel* Identification Mark *LLOYD'S PORT M.B. 9080/11.11.630 in one with Thrust shaft* Identification Mark *LLOYD'S PORT M.B. 9082.11.630*
Thrust shaft, Material *in one with fly wheel shaft* Identification Mark Intermediate shafts, Material *J. M. Steel* Identification Mark *LLOYD'S PORT M.B. 9250.4.11.11.630*
Tube shaft, Material Identification Mark Screw shaft, Material *J. M. Steel* Identification Mark *LLOYD'S PORT M.B. 9254.29.11.11.630*
Spare ? 2.8325 14.8.

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

Is this machinery duplicate of a previous case *yes* If so, state name of vessel *"Lagaronis", "Rico Hurni", Eumen Gas No. 1/1"*

General Remarks (State quality of workmanship, opinions as to class, &c.)

These Diesel engines and their auxiliaries have been constructed under Special Survey in accordance with the approved plan, the Lore-Fan's letter and otherwise in conformity with the requirements of the Rules. The materials are made at works recognized by the Committee and tested by the Society's Surveyors. The materials and workmanship are of good quality. (Please see Hamburg Surveyor Report No. 19576.)

They have been satisfactorily installed on board and examined under full working and manoeuvring conditions and were found to work satisfactorily.

The machinery is in my opinion eligible to be classed in the Society's Register Book with the notation of + L.M.C. 3, 31. Oil engine, C.L., 2 water Tube D.B. 200 lbs.

(3 Test certificates attached.)

Brunnen Office.

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

The amount of Entry Fee *1/5* £ 1 : 4 : 0 When applied for, *26. 3. 1931*
Special *1/5* £ 27 : 10 : 0
Donkey Boiler Fee *1/5* £ 5 : 7 : 0 When received, *8. 11. 1931*
Travelling Expenses (if any) £ 15 : 0 : 0

Committee's Minute

Assigned

*+ L.M.C. 3, 31 C.L.
Oil Eng. 2 DB (M.T.) 200 lbs.
2 DB 100 lbs.*

G. H. C. Rams
Engineer Surveyor to Lloyd's Register of Shipping.



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